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CONSTRUCTION OF VETERINARY MEDICAL EDUCATION FACILITIES

GOVERNMENT

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HEARING

BEFORE THE

SUBCOMMITTEE ON PUBLIC HEALTH AND WELFARE

OF THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES EIGHTY-NINTH CONGRESS

SECOND SESSION

ON

H.R. 490, H.R. 3348

BILLS TO AUTHORIZE A THREE-YEAR PROGRAM OF GRANTS
FOR CONSTRUCTION OF VETERINARY MEDICAL EDUCA-
TION FACILITIES, AND FOR OTHER PURPOSES (AND SIMILAR
BILLS)

APRIL 20, 1966

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CONTENTS

Text of—	Page
H. R. 490.....	2
H. R. 3348.....	8
Report on H. R. 490 from—	
Agriculture Department.....	16
Comptroller General of the United States.....	17, 18
Defense Department.....	15
Health, Education, and Welfare Department.....	14
Statement of—	
Aderhold, O. C., on behalf of National Association of State Universities & Land-Grant Colleges.....	78
Andrews, Hon. George, a Representative in Congress from the State of Alabama.....	18
Andrews, Hon. Mark, a Representative in Congress from the State of North Dakota.....	57
Dole, Hon. Robert, a Representative in Congress from the State of Kansas.....	64
Edds, Dr. G. T., chairman, Department of Veterinary Science, University of Florida.....	121
Fogarty, Hon. John E., a Representative in Congress from the State of Rhode Island.....	42
Greene, Dr. James E., representing Auburn University and American Veterinary Medical Association.....	92
Greenway, Wiley J., president, Georgia State Veterinary Medical Association.....	130
Harrell, Dr. George T., dean, Pennsylvania State University College of Medicine, and director, Milton S. Hershey Medical Center.....	82
Holm, Dr. Glenn C., dean, College of Veterinary Medicine, Oklahoma State University.....	96
Johnson, Hon. Jed, Jr., a Representative in Congress from the State of Oklahoma.....	41
Krill, Dr. Walter R., dean, College of Veterinary Medicine, Ohio State University.....	99
Leggett, Hon. Robert L., a Representative in Congress from the State of California.....	47
Matthews, Hon. D. R. (Billy), a Representative in Congress from the State of Florida.....	61
Meyer, Dr. Leo J., Martinsburg, W. Va.....	114
Mize, Hon. Chester L., a Representative in Congress from the State of Kansas.....	64
Olsen, Hon. Arnold, a Representative in Congress from the State of Montana.....	63
Pepper, Hon. Claude, a Representative in Congress from the State of Florida.....	37
Petschulat, N. D., Animal Health Institute.....	126
Price, Alvin A., dean, College of Veterinary Medicine, Texas A. & M. University.....	111
Pritchard, Dr. W. R., dean, School of Veterinary Medicine, University of California.....	104
Robison, Hon. Howard W., a Representative in Congress from the State of New York.....	59
Spangler, Dr. Don H., president, American Veterinary Medical Association.....	86
Steed, Hon. Tom, a Representative in Congress from the State of Oklahoma.....	40
Stephens, Hon. Robert G., Jr., a Representative in Congress from the State of Georgia.....	54

Statement of—Continued

Thorp, Dr. W. T. S., chairman, Joint Committee on Education, American Veterinary Medical Association.....	Page 67, 129
Wolf, Dr. George A., Jr., vice president for medical and dental affairs, Tufts University, and executive director, Tufts-New England Medical Center.....	84
Additional information submitted for the record by—	
Allam, Dr. Mark W., dean, School of Veterinary Medicine, University of Pennsylvania, statement of.....	33
American Association of Equine Practitioners, statement of Wayne O. Kester, executive secretary and treasurer.....	31
American Dental Association, letter from Bernard J. Conway, secretary, council on legislation.....	133
American Public Health Association, statement of.....	65
Anderson, Dr. Robert J., Deputy Administrator, Agricultural Research Service, U.S. Department of Agriculture, statement before Association of State Universities & Land-Grant Colleges, November 12, 1963.....	21
Animal Health Institute, statement of Hollis H. Brower, president.....	127
Armistead, W. W., dean, College of Veterinary Medicine, Michigan State University.....	131
Brandly, C. A., dean, College of Veterinary Medicine, University of Illinois, letter from.....	32
Christensen, George C., vice president for academic affairs, Iowa State University, letter from.....	25
Davidson, Dr. Fred C., dean, School of Veterinary Medicine, University of Georgia, statement of.....	25
Goerke, Dr. L. S., dean, School of Public Health, University of California.....	134
Health, Education, and Welfare Department, letter from J. W. Ashton, Director, Division of Graduate Programs, Office of Education.....	86
Holmberg, J. S., State chairman, Oklahoma Research & Education Association, letter from.....	137
Kitchell, Ralph L., dean, College of Veterinary Medicine, Iowa State University, letter from.....	26
McCain, James A., president, Kansas State University, letter from.....	133
Montana Stockgrowers Association, Inc., letter from Ralph Miracle, secretary.....	63
Mosley, Dr. Kirk T., letter from.....	136
Mrak, Emil M., chancellor, University of California, statement of.....	51
New York State Veterinary Medical Society, telegram from Dr. John F. Donovan, executive secretary.....	131
Oklahoma Cattlemen's Association, letter from Ellis Freeny, executive vice president.....	136
Oklahoma Veterinary Medical Association, letter from Dr. H. H. Karsteter, president.....	136
Pharmaceutical Manufacturers Association, letter from C. Joseph Stetler, president.....	134
Philpott, Harry M., president, Auburn University, letter from.....	131
Poppensiek, George C., dean, New York State Veterinary College, Cornell University, statement of.....	27
Pritchard, Dr. W. R., dean, School of Veterinary Medicine, University of California, statement of.....	49
Tripp, Dr. J. Pat, letter from.....	135
Trotter, D. M., acting dean, College of Veterinary Medicine, Kansas State University, letter from.....	132
Tupper, Dr. C. J., dean, School of Medicine, University of California, statement of.....	52
United States Livestock Sanitary Association, statement of Dr. C. L. Campbell, president.....	28
White, Dr. Joseph M., associate dean, School of Medicine, University of Oklahoma, letter from.....	137
Williams, Dr. T. S., dean, School of Veterinary Medicine, Tuskegee Institute, statement of.....	30

CONSTRUCTION OF VETERINARY MEDICAL EDUCATION FACILITIES

WEDNESDAY, APRIL 20, 1966

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON PUBLIC HEALTH
AND WELFARE OF THE COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room 2218, Rayburn House Office Building, Hon. John Jarman (chairman of the subcommittee) presiding.

Mr. JARMAN. The committee will please be in order.

The hearings today are on H.R. 490, H.R. 3348, and 14 similar bills relating to the construction of veterinary medical education facilities and providing assistance to students of veterinary medical education. These bills, although differing in details, provide in general for grants to cover a portion of the cost of construction of teaching facilities for the training of veterinary medical personnel, and for the replacement of rehabilitation of existing facilities. The bills also provide for assistance in establishment of loan funds for students at such schools.

The original legislation on this subject was introduced by our colleague from Alabama, Mr. Andrews. Since the introduction of that bill a number of our colleagues have introduced bills having a similar purpose and it is these bills on which the subcommittee is holding its hearings today.

It has been estimated that there will be a need for at least twice the number of veterinaries presently in practice in the United States by the year 1980. Because of the existing shortage of teaching facilities it will be impossible to provide the needed manpower in this area without a substantial increase in facilities. This problem is a national one.

Illustrative of the need and the fact that this is a national rather than a local problem is the situation at Oklahoma State University in Stillwater, Okla. The university accepts students from eight States under interstate agreements—Oklahoma, Nebraska, North Dakota, Texas, Arkansas, Louisiana, West Virginia, and North Carolina. A report from the school shows that out of 139 applicants for admission last fall, only 48 could be admitted because of the shortage of training facilities.

The purpose of these hearings is to examine present and future educational demands on the profession and determine the most feasible and productive means of meeting these demands. It is my hope that

we will emerge with a bill which will afford adequate incentive and protection to the veterinary medical profession.

At this point in the record there will be included the text of H.R. 490, H.R. 3348, and the agency reports thereon.

(The 14 similar bills are: H.R. 4809, H.R. 5267, H.R. 5574, H.R. 5890, H.R. 5954, H.R. 6087, H.R. 6332, H.R. 6999, H.R. 8029, H.R. 11205, H.R. 12345, H.R. 14206, H.R. 14220, H.R. 14329.)

[H.R. 490, 89th Cong., 1st sess.]

A BILL To authorize a three-year program of grants for construction of veterinary medical education facilities, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Veterinary Medical Educational Facilities Construction Act of 1964".

NATIONAL ADVISORY COUNCIL

SEC. 2. Section 725 of the Public Health Service Act (relating to the National Advisory Council on Education for Health Professions) is amended as follows:

(a) (1) In the first sentence of subsection (a) of such section, strike out "sixteen" and insert in lieu thereof "seventeen";

(2) In the second sentence of such subsection (a), (A) strike out "eight" and insert in lieu thereof "nine", and (B) strike out "or the public health professions" and insert in lieu thereof "the public health professions, or veterinary medicine";

(3) In the third sentence of such subsection (a), strike out "or schools of public health" and insert in lieu thereof "schools of public health or schools of veterinary medicine";

(b) In subsection (b) of such section, insert "and part A of title VIII" after "this part"; and

(c) In subsection (c) of such section, strike out "this part" (wherever it appears therein) and insert in lieu thereof "this part or part A of title VIII".

GRANTS FOR VETERINARY MEDICAL TEACHING FACILITIES

SEC. 3. The Public Health Service Act is amended by adding after title VII thereof (42 U.S.C. ch. 6A) the following new title:

"TITLE VIII—TRAINING OF VETERINARY MEDICAL PERSONNEL

"PART A—GRANTS FOR CONSTRUCTION OF TEACHING FACILITIES FOR VETERINARY MEDICAL PERSONNEL

"DECLARATION OF POLICY

"SEC. 801. (a) The Congress hereby finds and declares that (1) increased demand for veterinary services and research necessitates the expansion and improvement of existing educational facilities for the training of veterinary medical personnel, and (2) steadily increasing tuition fees and increasing contributions from private citizens, State appropriations, and funds from the veterinary medical profession itself have proven insufficient to provide the necessary capital funds required for such expansion and improvement.

"(b) It is, therefore, the policy of the Congress to provide funds for construction of veterinary medical teaching facilities for our public and nonprofit veterinary medical schools, thus insuring the continued production of an adequate number of properly qualified and trained veterinarians.

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 802. (a) There are hereby authorized to be appropriated over a period of three fiscal years, beginning with the fiscal year ending June 30, 1965, not to exceed the following amounts—

"(1) \$2,000,000 for the fiscal year beginning July 1, 1964, and for each of the two succeeding fiscal years, for grants to assist in the replacement or

rehabilitation of existing teaching facilities for the training of veterinary medical personnel; and

"(2) \$15,000,000 for the fiscal year beginning July 1, 1964, and for each of the two succeeding fiscal years, for grants to assist in the construction of new or expanded teaching facilities for the training of veterinary medical personnel.

"(b) Sums appropriated pursuant to this section shall remain available until expended.

"APPROVAL OF APPLICATIONS

"SEC. 803. (a) No application for a grant under this part may be approved unless it is submitted to the Surgeon General prior to July 1, 1966.

"(b) To be eligible to apply for a grant to assist in the construction of any facility under this part, the applicant must be (A) a public or other nonprofit school of veterinary medicine, and (B) accredited by a recognized body or bodies approved for such purpose by the Commissioner of Education, except that a new school which (by reason of no, or insufficient period of operation) is not, at the time of application for a grant to construct a facility under this part, eligible for accreditation by such a recognized body or bodies, shall be deemed accredited for purposes of this part if the Commissioner of Education finds, after consultation with the appropriate accreditation body or bodies, that there is reasonable assurance that the school will, upon completion of such facility, meet the accreditation standards of such body or bodies.

"(c) A grant under this part may be made only if the application therefor is approved by the Surgeon General upon his determination that—

"(1) the applicant meets the eligibility conditions set forth in subsection (b);

"(2) the application contains or is supported by reasonable assurances that (A) for not less than ten years after completion of construction, the facility will be used for the purposes of the teaching of veterinary medical personnel, (B) sufficient funds will be available to meet the non-Federal share of the cost of constructing the facility, (C) sufficient funds will be available when construction is completed, for effective use of the facility for the training for which it is constructed, and (D) in the case of an application for construction to expand the training capacity of an existing school of veterinary medicine, the first-year enrollment at such school during the first full school year after the completion of the construction and for each of the next nine school years thereafter will exceed the average first-year enrollment at such school for the five full school years preceding the year in which the application is made by at least 5 per centum of such highest first-year enrollment.

"(3) (A) in the case of an application for a grant from funds appropriated pursuant to clause (1) of section 802(a), such application is for aid in construction which will replace or rehabilitate facilities of, or used by, an existing school of veterinary medicine which are so obsolete as to require the school to curtail substantially either its enrollment or the quality of the training provided, or (B) in the case of an application for a grant from funds appropriated pursuant to clause (2) of section 802(a), such application is for aid in the construction of a new school of veterinary medicine, or construction which will expand the training capacity of an existing school of veterinary medicine;

"(4) the plans and specifications are in accordance with regulations relating to minimum standards of construction and equipment; and

"(5) the application contains or is supported by adequate assurance that any laborer or mechanic employed by any contractor or subcontractor in the performance of work on the construction of the facility will be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5); and the Secretary of Labor shall have, with respect to the labor standards specified in this clause, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 5 U.S.C. 133z-15), and section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c).

Before approving or disapproving an application under this part, the Surgeon General shall secure the advice of the National Advisory Council on Education

for Health Professions established by section 725 (hereinafter in this part referred to as the 'Advisory Council').

"(d) In considering applications for grants, the Advisory Council and the Surgeon General shall take into account—

"(1) (A) in the case of a project for replacement or rehabilitation of existing facilities of, or used by, a school, the relative need for such replacement or rehabilitation to prevent curtailment of the school's enrollment or deterioration of the quality of the training provided by the school, and the relative size of any such curtailment and its effect on the geographical distribution of opportunities for training (giving due consideration to population, available veterinarians, and available resources in various areas of the Nation for training veterinarians); or

"(B) in the case of a project for a new school or for expansion of the facilities of, or used by, an existing school, the relative effectiveness of the proposed facilities in expanding the capacity for the training of first-year students of veterinary medicine (or, in the case of a two-year school which is expanding to a four-year school, expanding the capacity for four-year training of students of veterinary medicine), and in promoting an equitable geographical distribution of opportunities for such training (giving consideration to the factors mentioned above in subparagraph (A)); and

"(2) in the case of an applicant in a State which has in existence a State planning agency, or which participates in a regional or other interstate planning agency, described in section 800, the relationship of the application to the construction or training program which is being developed by such agency with respect to such State and, if such agency has reviewed such application, any comment thereon submitted by such agency.

"AMOUNT OF GRANT; PAYMENTS

"SEC. 804. (a) (1) Except as provided in paragraph (2), the amount of any grant under this part shall be such amount as the Surgeon General determines to be appropriate after obtaining the advice of the Advisory Council; except that (A) in the case of a project for a new school, and in the case of a grant for new facilities for an existing school in cases where such facilities are of particular importance in providing a major expansion of training capacity, as determined in accordance with regulations, such amount may not exceed 66 $\frac{2}{3}$ per centum of the necessary cost of construction, as determined by the Surgeon General, of such project; (B) in the case of any other grant, such amount may not exceed 50 per centum of the necessary cost of construction, as so determined, of the project with respect to which the grant is made.

"(2) Notwithstanding subsection (a), upon application of any veterinary medical school, a grant of not more than \$25,000 may be made for the purpose of preparing initial plans with estimates for proposed new construction.

"(b) Upon approval of any application for a grant under this part, the Surgeon General shall reserve, from any appropriation available therefor, the amount of such grant as determined under subsection (a); the amount so reserved may be paid in advance or by way of reimbursement, and in such installments consistent with construction progress, as the Surgeon General may determine. The Surgeon General's reservation of any amount under this section may be amended by him, either upon approval of an amendment of the application or upon revision of the estimated cost of construction of the facility.

"(c) In determining the amount of any grant under this part, there shall be excluded from the cost of construction an amount equal to the sum of (1) the amount of any other Federal grant which the applicant has obtained, or is assured of obtaining, with respect to the construction which is to be financed in part by grants authorized under this part, and (2) the amount of any non-Federal funds required to be expended as a condition of such other Federal grant.

"RECAPTURE OF PAYMENTS

"SEC. 805. If, within ten years after completion of any construction for which funds have been paid under this part—

"(a) the applicant or other owner of the facility shall cease to be a public or nonprofit school,

"(b) the facility shall cease to be used for the teaching purposes for which it was constructed (unless the Surgeon General determines, in accordance

with regulations, that there is good cause for releasing the applicant or other owner from the obligation to do so), or

"(c) the facility is used for sectarian instruction or as a place for religious worship.

the United States shall be entitled to recover from the applicant or other owner of the facility the amount bearing the same ratio to the then value (as determined by agreement of the parties or by action brought in the United States district court for the district in which such facility is situated) of the facility, as the amount of the Federal participation bore to the cost of construction of such facility.

"DEFINITIONS

"SEC. 806. As used in this part—

"(1) The term 'Advisory Council' means the National Advisory Council on Education for Health Professions established by section 725;

"(2) The terms 'construction' and 'cost of construction' include (A) the construction of new buildings, the expansion of existing buildings, and remodeling, replacement, renovation, major repair (to the extent permitted by regulations), or alteration of existing buildings, including architects' fees, but not including the cost of acquisition of land or offsite improvements, and (B) initial equipment of new buildings and of the expanded, remodeled, repaired, renovated, or altered part of existing buildings; but such terms shall not include the construction or cost of construction of so much of any facility as is used or is to be used for sectarian instruction or as a place for religious worship;

"(3) The term 'nonprofit school' means a school owned and operated by one or more corporations or associations no part of the net earnings of which inures, or may lawfully inure, to the benefit of any private shareholder or individual; and

"(4) The terms 'school of veterinary medicine' and 'veterinary medical school' mean a school or college providing training leading to the degree of doctor of veterinary medicine.

"NONINTERFERENCE WITH ADMINISTRATION OF INSTITUTIONS

"SEC. 807. Nothing contained in this part shall be construed as authorizing any department, agency, officer, or employee of the United States to exercise any direction, supervision, or control over, or impose any requirement with respect to, the personnel, curriculum, methods of instruction, or administration of any institution.

"REGULATIONS

"SEC. 808. (a) The Surgeon General, after consultation with the Advisory Council and with the approval of the Secretary, shall prescribe general regulations for this part covering the eligibility of institutions, the order of priority in approving applications, the terms and conditions for approving applications, determinations of the amounts of grants, and minimum standards of construction and equipment for various types of institutions.

"(b) The Surgeon General is authorized to make, with the approval of the Secretary, such other regulations as he finds necessary to carry out the provisions of this part.

"TECHNICAL ASSISTANCE

"SEC. 809. In carrying out the purposes of this part, and to further the development of State, or joint or coordinated regional or other interstate, planning of programs for relieving shortages of training capacity in the field of veterinary medicine through constructing teaching facilities, providing adequate financial support for schools, or otherwise, the Surgeon General is authorized to provide technical assistance and consultative services to State or interstate planning agencies established for such purpose."

"PART B—STUDENT LOANS

"LOAN AGREEMENTS

"SEC. 820. (a) The Secretary of Health, Education, and Welfare is authorized to enter into an agreement for the establishment and operation of a student loan fund in accordance with this part with any public or other nonprofit school of veterinary medicine (as defined in section 806) which is located in a State and accredited as provided in section 803(b) (B).

"(b) Each agreement entered into under this section shall—

"(1) provide for establishment of a student loan fund by the school;

"(2) provide for deposit in the fund of (A) the amounts allocated under this part to the school by the Secretary, (B) an additional amount from other sources equal to not less than one-ninth of amounts deposited pursuant to clause (A), (C) collections of principal and interest on loans made from the fund, and (D) any other earnings of the fund;

"(3) provide that the fund shall be used only for loans to students of the school in accordance with the agreement and for costs of collection of such loans and interest thereon;

"(4) provide that loans may be made from such fund only to students pursuing a full-time course of study at the school leading to a degree of doctor of veterinary medicine, and that while the agreement remains in effect no such student who has attended such school before July 1, 1966, shall receive a loan from a loan fund established under section 204 of the National Defense Education Act of 1958; and

"(5) contain such other provisions as are necessary to protect the financial interests of the United States.

"LOANS PROVISIONS

"SEC. 821. (a) Loans from a loan fund established under this part may not exceed \$2,000 for any student for any academic year or its equivalent. In the granting of such loans, a school shall give preference to persons who enter as first-year students after June 30, 1963.

"(b) Any such loans shall be made on such terms and conditions as the school may determine, but may be made only to a student in need of the amount thereof to pursue a full-time course of study at the school leading to a degree of doctor of veterinary medicine.

"(c) Such loans shall be repayable in equal or graduated periodic installments (with the right of the borrower to accelerate repayment) over the ten-year period which begins three years after the student ceases to pursue a full-time course of study at a school of veterinary medicine, excluding from such ten-year period all periods (up to three years) of (1) active duty performed by the borrower as a member of a uniformed service, or (2) service as a volunteer under the Peace Corps Act.

"(d) The liability to repay the unpaid balance of such loan and accrued interest thereon shall be canceled upon the death of the borrower, or if the Secretary determines that he has become permanently and totally disabled.

"(e) Such loans shall bear interest, on the unpaid balance of the loan, computed only for periods during which the loan is repayable, at the rate of 3 per centum per annum, or the going Federal rate at the time the loan is made, whichever rate is the greater. For purposes of this subsection, the term 'going Federal rate' means the rate of interest which the Secretary of the Treasury specifies during June of each year for purposes of loans made during the fiscal year beginning on the next July 1, determined by estimating the average yield to maturity, on the basis of daily closing market quotations or prices during the preceding May on all outstanding marketable obligations of the United States having a maturity date of fifteen or more years from the first day of such month of May, and by rounding off such estimated average annual yield to the next higher multiple of one-eighth of 1 per centum.

"(f) Loans shall be made under this part without security or endorsement, except that if the borrower is a minor and the note or other evidence of obligation executed by him would not, under the applicable law, create a binding obligation, either security or endorsement may be required.

"(g) No note or other evidence of a loan made under this part may be transferred or assigned by the school making the loan except that, if the borrower transfers to another school participating in the program under this part, such note or other evidence of a loan may be transferred to such other school.

"(h) Where all or any part of a loan, or interest, is canceled under this section, the Secretary shall pay to the school an amount equal to the school's proportionate share of the canceled portion, as determined by the Secretary.

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 822. (a) There are hereby authorized to be appropriated to the Secretary of Health, Education, and Welfare to carry out this part \$510,000 for the fiscal year ending June 30, 1964, \$1,020,000 for the fiscal year ending June 30,

1965, \$1,540,000 for the fiscal year ending June 30, 1966, and such sums for the fiscal year ending June 30, 1967, and each of the two succeeding fiscal years as may be necessary to enable students who have received a loan for any academic year ending before July 1, 1966, to continue or complete their education. Sums appropriated pursuant to this subsection shall be allotted among loan funds at schools which have established loan funds under this part.

"(b) (1) The Secretary shall from time to time set dates by which schools with which he has in effect agreements under this part must file applications for allotments to their loan funds.

"(2) If the total of the amounts requested for any fiscal year in such applications exceeds the amounts appropriated under this part for that fiscal year, the allotment to the loan fund of each such school shall be reduced by whichever of the following is the smaller: (A) the amount requested in its application, or (B) an amount which bears the same ratio to the amounts appropriated as the number of students estimated by the Secretary to be enrolled in such school during such fiscal year bears to the estimated total number of students in all such schools during such year. Amounts remaining after allotment under the preceding sentence among schools whose applications requested more than the amounts so allotted to their loan funds, but with such adjustments as may be necessary to prevent the total allotted to any such school's loan fund from exceeding the total so requested by it.

"(3) Allotments to a loan fund of a school shall be paid to it from time to time in such installments as the Secretary determines will not result in unnecessary accumulations in the loan fund at such school.

"DISTRIBUTION OF ASSETS FROM LOAN FUNDS

"SEC. 823. (a) After June 30, 1969, and not later than September 30, 1969, there shall be a capital distribution of the balance of the loan fund established under this part by each school as follows:

"(1) The Secretary shall first be paid an amount which bears the same ratio to the balance in such fund at the close of June 30, 1969, as the total amount of the allotments to such fund by the Secretary under this part bears to the total amounts in such fund derived from such allotments and from funds deposited therein pursuant to section 820(b) (2) (B).

"(2) The remainder of such balance shall be paid to the school.

"(b) After September 30, 1969, each school with which the Secretary has made an agreement under this part shall pay to the Secretary, not less often than quarterly, the same proportionate share of amounts received by the school after June 30, 1969, in payment of principal or interest on loans made from the loan fund establish pursuant to such agreement as was determined for the Secretary under subsection (a).

"LOANS TO SCHOOLS

"SEC. 824. Upon application by any school with which he has made an agreement under this part, the Secretary may make a loan to such school for the purpose of helping to finance deposits required by section 820(b) (2) (B) in a loan fund established pursuant to such agreement. Such loan may be made only if the school shows it is unable to secure such funds upon reasonable terms and conditions from non-Federal sources. Loans made under this section shall bear interest at a rate sufficient to cover (1) the cost of the funds to the Treasury, (2) the cost of administering this section, and (3) probable losses.

"ADMINISTRATIVE PROVISIONS

"SEC. 825. The Secretary may agree to modifications of agreements or loans made under this part, and may compromise, waive, or release any right, title, claim, or demand of the United States arising or acquired under this part."

TECHNICAL AMENDMENTS

SEC. 4. (a) Section of the Public Health Service Act is amended to read as follows:

"SHORT TITLE

"SECTION 1. Title I to VIII, inclusive, of this Act may be cited as the 'Public Health Service Act'."

(b) The Act of July 1, 1944 (58 Stat. 682), as amended, is further amended by renumbering title VIII (as in effect prior to the enactment of this Act) as

title IX, and by renumbering sections 801 through 814 (as in effect prior to the enactment of this Act), and references thereto, as sections 901 through 914, respectively.

[H.R. 3348, 89th Cong., 1st sess.]

A BILL To authorize a three-year program of grants for construction of veterinary medical education facilities, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Veterinary Medical Educational Facilities Construction Act of 1965".

NATIONAL ADVISORY COUNCIL

SEC. 2. Section 725 of the Public Health Service Act (relating to the National Advisory Council on Education for Health Professions) is amended as follows:

(a) (1) In the first sentence of subsection (a) of such section, strike out "sixteen" and insert in lieu thereof "seventeen";

(2) In the second sentence of such subsection (a) (A) strike out "eight" and insert in lieu thereof "nine", and (B) strike out "or the public health professions" and insert in lieu thereof "the public health professions, or veterinary medicine";

(3) In the third sentence of such subsection (a), strike out "or schools of public health" and insert in lieu thereof "schools of public health or schools of veterinary medicine";

(b) In subsection (b) of such section, insert "and part A or title VII" after "this part"; and

(c) In subsection (c) of such section, strike out "this part" (wherever it appears therein) and insert in lieu thereof "this part or part A of title VIII".

GRANTS FOR VETERINARY MEDICAL TEACHING FACILITIES

SEC. 3. The Public Health Service Act is amended by adding after title VII thereof (42 U.S.C., ch. 6A) the following new title:

"TITLE VIII—TRAINING OF VETERINARY MEDICAL PERSONNEL

"PART A—GRANTS FOR CONSTRUCTION OF TEACHING FACILITIES FOR VETERINARY MEDICAL PERSONNEL

"DECLARATION OF POLICY

"SEC. 801. (a) The Congress hereby finds and declares that (1) increased demand for veterinary services and research necessitates the expansion and improvement of existing educational facilities for the training of veterinary medical personnel, and (2) steadily increasing tuition fees and increasing contributions from private citizens, State appropriations and funds from the veterinary medical profession itself have proven insufficient to provide the necessary capital funds required for such expansion and improvement.

"(b) It is, therefore, the policy of the Congress to provide funds for construction of veterinary medical teaching facilities for our public and nonprofit veterinary medical schools, thus insuring the continued production of an adequate number of properly qualified and trained veterinarians.

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 802. (a) There are hereby authorized to be appropriated over a period of three fiscal years, beginning with the fiscal year ending June 30, 1966, not to exceed the following amounts—

"(1) \$2,000,000 for the fiscal year beginning July 1, 1965, and for each of the two succeeding fiscal years, for grants to assist in the replacement or rehabilitation of existing teaching facilities for the training of veterinary medical personnel; and

"(2) \$15,000,000 for the fiscal year beginning July 1, 1965, and for each of the two succeeding fiscal years, for grants to assist in the construction

of new or expanded teaching facilities for the training of veterinary medical personnel.

"(b) Sums appropriated pursuant to this section shall remain available until expended.

"APPROVAL OF APPLICATIONS

"SEC. 803. (a) No application for a grant under this part may be approved unless it is submitted to the Surgeon General prior to July 1, 1967.

"(b) To be eligible to apply for a grant to assist in the construction of any facility under this part, the applicant must be (A) a public or other nonprofit school of veterinary medicine, and (B) accredited by a recognized body or bodies approved for such purpose by the Commissioner of Education, except that a new school which (by reason of no, or insufficient, period of operation) is not, at the time of application for a grant to construct a facility under this part, eligible for accreditation by such a recognized body or bodies, shall be deemed accredited for purposes of this part if the Commissioner of Education finds, after consultation with the appropriate accreditation body or bodies, that there is reasonable assurance that the school will, upon completion of such facility, meet the accreditation standards of such body or bodies.

"(c) A grant under this part may be made only if the application therefor is approved by the Surgeon General upon his determination that—

"(1) the applicant meets the eligibility conditions set forth in subsection (b);

"(2) the application contains or is supported by reasonable assurances that (A) for not less than ten years after completion of construction, the facility will be used for the purposes of the teaching of veterinary medical personnel, (B) sufficient funds will be available to meet the non-Federal share of the cost of constructing the facility, (C) sufficient funds will be available when construction is completed, for effective use of the facility for the training for which it is constructed, and (D) in the case of an application for construction to expand the training capacity of an existing school of veterinary medicine, the first-year enrollment at such school during the first full school year after the completion of the construction and for each of the next nine school years thereafter will exceed the average first-year enrollment at such school for the five full school years preceding the year in which the application is made by at least 5 per centum of such highest first-year enrollment.

"(3) (A) in the case of an application for a grant from funds appropriated pursuant to clause (1) of section 802(a), such application is for aid in construction which will replace or rehabilitate facilities of, or used by, an existing school of veterinary medicine which are so obsolete as to require the school to curtail substantially either its enrollment or the quality of the training provided, or (B) in the case of an application for a grant from funds appropriated pursuant to clause (2) of section 802(a), such application is for aid in the construction of a new school of veterinary medicine, or construction which will expand the training capacity of an existing school of veterinary medicine;

"(4) the plans and specifications are in accordance with regulations relating to minimum standards of construction and equipment; and

"(5) the application contains or is supported by adequate assurance that any laborer or mechanic employed by a contractor or subcontractor in the performance of work on the construction of the facility will be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5); and the Secretary of Labor shall have, with respect to the labor standards specified in this clause, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 5 U.S.C. 133z-15), and section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c).

Before approving or disapproving an application under this part, the Surgeon General shall secure the advice of the National Advisory Council on Education for Health Professions established by section 725 (hereinafter in this part referred to as the 'Advisory Council').

"(d) In considering applications for grants, the Advisory Council and the Surgeon General shall take into account—

"(1) (A) in the case of a project for replacement or rehabilitation of existing facilities of, or used by, a school, the relative need for such replace-

ment or rehabilitation to prevent curtailment of the school's enrollment or deterioration of the quality of the training provided by the school, and the relative size of any such curtailment and its effect on the geographical distribution of opportunities of training (giving due consideration to population, available veterinarians, and available resources in various areas of the Nation for training veterinarians); or

"(B) in the case of a project for a new school or for expansion of the facilities of, or used by, an existing school, and relative effectiveness of the proposed facilities in expanding the capacity for the training of first-year students of veterinary medicine (or, in the case of a two-year school which is expanding to a four-year school, expanding the capacity for four-year training of students of veterinary medicine), and in promoting an equitable geographical distribution of opportunities for such training (giving consideration to the factors mentioned above in subparagraph (A)); and

"(2) in the case of an applicant in a State which has in existence a State planning agency, or which participates in a regional or other interstate planning agency, described in section 809, the relationship of the application to the construction or training program which is being developed by such agency with respect to such State and, if such agency has reviewed such application, any comment thereon submitted by such agency.

"AMOUNT OF GRANT; PAYMENTS

"Sec. 804. (a) (1) Except as provided in paragraph (2), the amount of any grant under this part shall be such amount as the Surgeon General determines to be appropriate after obtaining the advice of the Advisory Council; except that (A) in the case of a project for a new school, and in the case of a grant for new facilities for an existing school in cases where such facilities are of particular importance in providing a major expansion of training capacity, as determined in accordance with regulations, such amount may not exceed 66 $\frac{2}{3}$ per centum of the necessary cost of construction, as determined by the Surgeon General, of such project; (B) in the case of any other grant, such amount may not exceed 50 per centum of the necessary cost of construction, as so determined, of the project with respect to which the grant is made.

"(2) Notwithstanding subsection (a), upon application of any veterinary medical school, a grant of not more than \$25,000 may be made for the purpose of preparing initial plans with estimates for proposed new construction.

"(b) Upon approval of any application for a grant under this part, the Surgeon General shall reserve, from any appropriation available therefor, the amount of such grant as determined under subsection (a); the amount so reserved may be paid in advance or by way of reimbursement, and in such installments consistent with construction progress, as the Surgeon General may determine. The Surgeon General's reservation of any amount under this section may be amended by him, either upon approval of an amendment of the application or upon revision of the estimated cost of construction of the facility.

"(c) In determining the amount of any grant under this part, there shall be excluded from the cost of construction an amount equal to the sum of (1) the amount of any other Federal grant which the applicant has obtained, or is assured of obtaining, with respect to the construction which is to be financed in part by grants authorized under this part, and (2) the amount of any non-Federal funds required to be expended as a condition of such other Federal grant.

"RECAPTURE OF PAYMENTS

"Sec. 805. If, within ten years after completion of any construction for which funds have been paid under this part—

"(a) the applicant or other owner of the facility shall cease to be a public or nonprofit school,

"(b) the facility shall cease to be used for the teaching purposes for which it was constructed (unless the Surgeon General determines, in accordance with regulations, that there is good cause for releasing the applicant or other owner from the obligation to do so), or

"(c) the facility is used for sectarian instruction or as a place for religious worship,

the United States shall be entitled to recover from the applicant or other owner of the facility the amount bearing the same ratio to the then value (as deter-

mined by agreement of the parties or by action brought in the United States district court for the district in which such facility is situated) of the facility, as the amount of the Federal participation bore to the cost of construction of such facility.

"DEFINITIONS

"SEC. 806. As used in this part—

"(1) The term 'Advisory Council' means the National Advisory Council on Education for Health Professions established by section 725;

"(2) The terms 'construction' and 'cost of construction' include (A) the construction of new buildings, the expansion of existing buildings, and remodeling, replacement, renovation, major repair (to the extent permitted by regulations), or alteration of existing buildings, including architects' fees, but not including the cost of acquisition of land or offsite improvements, and (B) initial equipment of new buildings and of the expanded, remodeled, repaired, renovated, or altered part of existing buildings; but such terms shall not include the construction or cost of construction of so much of any facility as is used or is to be used for sectarian instruction or as a place for religious worship;

"(3) The term 'nonprofit school' means a school owned and operated by one or more corporations or associations no part of the net earnings of which inures, or may lawfully inure, to the benefit of any private shareholder or individual; and

"(4) The terms 'school of veterinary medicine' and 'veterinary medical school' mean a school or college providing training leading to the degree of doctor of veterinary medicine.

"NONINTERFERENCE WITH ADMINISTRATION OF INSTITUTIONS

"SEC. 807. Nothing contained in this part shall be construed as authorizing any department, agency, officer, or employee of the United States to exercise any direction, supervision, or control over, or impose any requirement with respect to, the personnel, curriculum, methods of instruction, or administration of any institution.

"REGULATIONS

"SEC. 808. (a) The Surgeon General, after consultation with the Advisory Council and with the approval of the Secretary, shall prescribe general regulations for this part covering the eligibility of institutions, the order of priority in approving applications, the terms and conditions for approving applications, determinations of the amounts of grants, and minimum standards of construction and equipment for various types of institutions.

"(b) The Surgeon General is authorized to make, with the approval of the Secretary, such other regulations as he finds necessary to carry out the provisions of this part.

"TECHNICAL ASSISTANCE

"SEC. 809. In carrying out the purposes of this part, and to further the development of State, or joint, or coordinated regional or other interstate planning of programs for relieving shortages of training capacity in the field of veterinary medicine through constructing teaching facilities, providing adequate financial support for schools, or otherwise, the Surgeon General is authorized to provide technical assistance and consultative services to State or interstate planning agencies established for such purpose."

"PART B—STUDENT LOANS

"LOAN AGREEMENTS

"SEC. 820. (a) The Secretary of Health, Education, and Welfare is authorized to enter into an agreement for the establishment and operation of a student loan fund in accordance with this part with any public or other nonprofit school of veterinary medicine (as defined in section 806) which is located in a State and accredited as provided in section 803 (b) (B).

"(b) Each agreement entered into under this section shall—

"(1) provide for establishment of a student loan fund by the school;

"(2) provide for deposit in the fund of (A) the amounts allocated under this part to the school by the Secretary, (B) an additional amount from

other sources equal to not less than one-ninth of amounts deposited pursuant to clause (A), (C) collections of principal and interest on loans made from the fund, and (D) any other earnings of the fund;

"(3) provide that the fund shall be used only for loans to students of the school in accordance with the agreement and for costs of collection of such loans and interest thereon;

"(4) provide that loans may be made from such fund only to students pursuing a full-time course of study at the school leading to a degree of doctor of veterinary medicine, and that while the agreement remains in effect no such student who has attended such school before July 1, 1967, shall receive a loan from a loan fund established under section 204 of the National Defense Education Act of 1958; and

"(5) contain such other provisions as one necessary to protect the financial interests of the United States.

"LOAN PROVISIONS

"SEC. 821. (a) Loans from a loan fund established under this part may not exceed \$2,000 for any student for any academic year or its equivalent. In the granting of such loans, a school shall give preference to persons who enter as first-year students after June 30, 1964.

"(b) Any such loans shall be made on such terms and conditions as the school may determine, but may be made only to a student in need of the amount thereof to pursue a full-time course of study at the school leading to a degree of doctor of veterinary medicine.

"(c) Such loans shall be repayable in equal or graduated periodic installments (with the right of the borrower to accelerate repayment) over the ten-year period which begins three years after the student ceases to pursue a full-time course of study at a school of veterinary medicine, excluding from such ten-year period all periods (up to three years) of (1) active duty performed by the borrower as a member of a uniformed service, or (2) service as a volunteer under the Peace Corps Act.

"(d) The liability to repay the unpaid balance of such loan and accrued interest thereon shall be canceled upon the death of the borrower, or if the Secretary determines that he has become permanently and totally disabled.

"(e) Such loans shall bear interest, on the unpaid balance of the loan, computed only for periods during which the loan is repayable, at the rate of 3 per centum per annum, or the going Federal rate at the time the loan is made, whichever rate is the greater. For purposes of this subsection, the term 'going Federal rate' means the rate of interest which the Secretary of the Treasury specifies during June of each year for purposes of loans made during the fiscal year beginning on the next July 1, determined by estimating the average yield to maturity, on the basis of daily closing market quotations or prices during the preceding May on all outstanding marketable obligations of the United States having a maturity date of fifteen or more years from the first day of such month of May, and by rounding off such estimated average annual yield to the next higher multiple of one-eighth of 1 per centum.

"(f) Loans shall be made under this part without security or endorsement, except that if the borrower is a minor and the note or other evidence of obligation executed by him would not, under the applicable law, create a binding obligation, either security or endorsement may be required.

"(g) No note or other evidence of a loan made under this part may be transferred or assigned by the school making the loan except that, if the borrower transfers to another school participating in the program under this part, such note or other evidence of a loan may be transferred to such other school.

"(h) Where all or any part of a loan, or interest, is canceled under this section, the Secretary shall pay to the school an amount equal to the school's proportionate share of the canceled portion, as determined by the Secretary.

"AUTHORIZATION OF APPROPRIATIONS

"SEC. 822. (a) There are hereby authorized to be appropriated to the Secretary of Health, Education, and Welfare to carry out this part \$510,000 for the fiscal year ending June 30, 1965, \$1,020,000 for the fiscal year ending June 30, 1966, \$1,540,000 for the fiscal year ending June 30, 1967, and such sums for the fiscal year ending June 30, 1968, and each of the two succeeding fiscal years as may be necessary to enable students who have received a loan for any academic year

ending before July 1, 1967, to continue or complete their education. Sums appropriated pursuant to this subsection shall be allotted among loan funds at schools which have established loan funds under this part.

"(b) (1) The Secretary shall from time to time set dates by which schools with which he has in effect agreements under this part must file applications for allotments to their loan funds.

"(2) If the total of the amounts requested for any fiscal year in such applications exceeds the amounts appropriated under this part for that fiscal year, the allotments to the loan fund of each such school shall be reduced by whichever of the following is the smaller: (A) the amount requested in its application, or (B) an amount which bears the same ratio to the amounts appropriated as the number of students estimated by the Secretary to be enrolled in such school during such fiscal year bears to the estimated total number of students in all such schools during such year. Amounts remaining after allotment under the preceding sentence among schools whose applications requested more than the amounts so allotted to their loan funds, but with such adjustments as may be necessary to prevent the total allotted to any such school's loan fund from exceeding the total so requested by it.

"(3) Allotments to a loan fund of a school shall be paid to it from time to time in such installments as the Secretary determines will not result in unnecessary accumulations in the loan fund at such school.

"DISTRIBUTION OF ASSETS FROM LOAN FUNDS

"SEC. 823. (a) After June 30, 1970, and not later than September 30, 1970, there shall be a capital distribution of the balance of the loan fund established under this part by each school as follows:

"(1) The Secretary shall first be paid in an amount which bears the same ratio to the balance in such fund at the close of June 30, 1970, as the total amount of the allotments to such fund by the Secretary under this part bears to the total amounts in such fund derived from such allotments and from funds deposited therein pursuant to section 820(b) (2) (B).

"(2) The remainder of such balance shall be paid to the school.

"(b) After September 30, 1970, each school with which the Secretary has made an agreement under this part shall pay to the Secretary, not less often than quarterly, the same proportionate share of amounts received by the school after June 30, 1970, in payment of principal or interest on loans made from the loan fund established pursuant to such agreement as was determined for the Secretary under subsection (a).

"LOANS TO SCHOOLS

"SEC. 824. Upon application by any school with which he has made an agreement under this part, the Secretary may make a loan to such school for the purpose of helping to finance deposits required by section 820(b) (2) (B) in a loan fund established pursuant to such agreement. Such loan may be made only if the school shows it is unable to secure such funds upon reasonable terms and conditions from non-Federal sources. Loans made under this section shall bear interest at a rate sufficient to cover (1) the cost of the funds to the Treasury, (2) the cost of administering this section, and (3) probable losses.

"ADMINISTRATIVE PROVISIONS

"SEC. 825. The Secretary may agree to modifications of agreements or loans made under this part, and may compromise, waive, or release any right, title, claim, or demand of the United States arising or acquired under this part."

TECHNICAL AMENDMENTS

SEC. 4. (a) Section 1 of the Public Health Service Act is amended to read as follows:

"SHORT TITLE

"SECTION 1. Titles I to VIII, inclusive, of this Act may be cited as the 'Public Health Service Act'."

(b) The Act of July 1, 1944 (58 Stat. 682), as amended, is further amended by renumbering title VIII (as in effect prior to the enactment of this Act) as title IX, and by renumbering sections 801 through 814 (as in effect prior to the

enactment of this Act), and references thereto, as sections 901 through 914, respectively.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
Washington, D.C., April 20, 1966.

HON. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request for a report on H.R. 490, a bill "To authorize a three-year program of grants for construction of veterinary medical education facilities, and for other purposes."

The bill, the purpose of which is to increase the supply of veterinary medical personnel in the United States, would add a new title to the Public Health Service Act, the major provisions of which would:

- (1) Authorize a new three-year program of construction grants for the construction, replacement, and rehabilitation of teaching facilities for the training of veterinary medical personnel; and
- (2) Authorize a new program of loans for students of veterinary medicine.

CONSTRUCTION GRANTS

The bill would authorize a new three-year program of construction grants to accredited public or other nonprofit schools of veterinary medicine to assist in the construction of teaching facilities. This authorization would parallel the construction provisions of the Health Professions Educational Assistance Act of 1963, as amended, which currently authorize construction of teaching facilities for the training of physicians, dentists, optometrists, pharmacists, podiatrists or professional public health personnel. The bill would authorize appropriations of \$15 million for the fiscal year 1965 and for each of the two succeeding years for grants to assist in the construction of new or expanded teaching facilities for the training of veterinary medical personnel. In addition, \$2 million would be authorized to be appropriated for fiscal year 1965, and for each of the two succeeding fiscal years for grants to assist in the replacement or rehabilitation of existing teaching facilities. Like the provisions of the Health Professions Educational Assistance Act, the Federal share of a construction project could not exceed 66 $\frac{2}{3}$ per centum of the cost of a new school or of construction providing a major expansion of training capacity of an existing school; the Federal share could not exceed 50 per centum of the cost of other construction.

The bill would also authorize grants of not more than \$25,000 for preparing initial plans for proposed new construction. (There is no such planning provision in the Health Professions Educational Assistance Act.)

In considering grant applications, the Surgeon General would take into account the effectiveness in expanding and maintaining enrollment and in promoting an equitable geographic distribution of opportunities for veterinary medical training.

STUDENT LOANS

The bill would authorize a loan program for students pursuing a full-time course of study leading to a degree of doctor of veterinary medicine. This loan program would be patterned generally after that for medical, dental, and optometry students (and, effective July 1, 1966, students of pharmacy and podiatry) authorized by the Health Professions Educational Assistance Act.

Students in need of financial assistance would be eligible for loans, with preference being given to students who enter as first year students after July 30, 1964. The maximum amount of a loan could not exceed \$2,000 a year (the maximum is \$2,500 a year under the Health Professions Educational Assistance Act), with interest computed only for the period during which the loan is repayable at 3% per year or the "going Federal rate", whichever is higher.

Loans would be repayable over a 10-year period which would begin three years after the student ceases to pursue a full-time course of study at a school of veterinary medicine wishing to participate in the program under agreement with the Secretary of Health, Education, and Welfare. The school would be required to provide \$1 for every \$9 of Federal contribution to the loan fund. Loans would be administered by the school and students would make application to the schools.

For these purposes, the bill would authorize appropriations of \$510,000 for fiscal year 1965, \$1,020,000 for fiscal year 1966, \$1,540,000, for fiscal year 1967, and such sums for each of the succeeding three fiscal years as may be necessary to enable students who have received a loan for any academic year ending before July 1, 1967, to continue or complete their education. Sums appropriated would be allotted among the respective schools which had established loan funds under agreements with the Secretary.

ADVISORY COUNCIL

The bill would also amend section 725 of the Public Health Service Act to increase from 16 to 17 the number of members of the National Advisory Council for the Health Professions, so as to add to its membership a leading authority in the field of training in veterinary medicine. That Council would review applications for construction grants, and would also advise the Surgeon General on general regulations covering the eligibility of institutions, the order of priority in approving applications, the terms and conditions for approving applications, determinations of amounts of grants, and minimum standards of construction and equipment for various types of institutions.

Today we are facing critical shortages of health professional and allied health professional manpower to provide medical care for the people of this Nation. This Department has recently testified before your committee urging enactment of legislation to support the training of persons in the allied health professions—physical therapists, medical technologists, dental hygienists, and other health professionals to strengthen the health team and extend the reach of services that can be provided by physicians and dentists.

We are committed to providing quality health care to every American. The extent and complexity of that commitment require that we must use all our health resources and funds as efficiently and effectively as possible. If we are to catch up and keep up with the demands for human health services, urgent priority must be given to the training of the members of the health team providing those services.

In the face of these critical shortages of personnel for the provision of personal health services, we are unable at this time to recommend enactment of special health legislation to assist in the basic professional education of veterinarians. This is not to say that veterinary science does not make significant contributions to the field of human medicine, to medical research, or to the maintenance of an abundant and safe food supply for our citizens. The veterinarian plays a key role in laboratory animal medicine; in the testing of biologicals and pharmaceuticals used in both human and animal medicine; in safeguarding humans against the diseases of animals which are transmissible to man; and in protecting American livestock and poultry against foreign animal disease. We recognize these contributions and are grateful for them.

Furthermore, we would call your attention to the fact that schools of veterinary medicine are eligible to receive construction funds under the Higher Education Facilities Construction Act administered by the Office of Education. Similarly, students of veterinary medicine are eligible, and are receiving, loans under the National Defense Student Loan program. Under the latter, it should be noted, a veterinary student can obtain a maximum loan of \$2,500 for any one academic year as compared with the \$2,000 maximum authorized in this bill.

In the light of other competing and urgent needs in the health manpower field we are not able at this time to recommend enactment of this bill.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

WILBUR J. COHEN,
Under Secretary.

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,
Washington, D.C., April 20, 1966.

HON. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense on H.R. 490, 89th Congress, a bill "To authorize a three-year program of grants for construction of veterinary medical education facilities, and for other purposes."

The purpose of the bill is twofold:

- a. To authorize grants for construction of teaching facilities for veterinary personnel.
- b. To authorize the Secretary of Health, Education, and Welfare to enter into agreement for the establishment and operation of a student loan fund with any accredited public or other nonprofit school of veterinary medicine located in a State.

Inasmuch as the proposal would directly affect the appropriations and responsibilities of the Department of Health, Education, and Welfare, the Department of Defense defers to that Department as to the merits of the bill.

The Bureau of the Budget advises that, from the standpoint of the Administration's program, there is no objection to the submission of this report to the Committee.

Sincerely,

(Signed) L. Niederlehner,
L. NIEDERLEHNER,
Acting General Counsel.

DEPARTMENT OF AGRICULTURE,
Washington, D.C., April 20, 1966.

HON. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CHAIRMAN: We wish to thank you for your letter of February 4, 1965, giving us the opportunity to review and report on H.R. 490, a bill entitled "To authorize a three-year program of grants for construction of veterinary medical education facilities, and for other purposes."

The purpose of the bill is to authorize aid in the form of grants for existing and new schools of veterinary medicine. The administration of the provisions of this bill would be under the Department of Health, Education, and Welfare. The bill would provide for the construction of veterinary medical educational facilities including new buildings and equipment. It also provides for expansion, remodeling, and alteration of existing buildings, as well as containing provisions for the establishment and operation of a student loan fund.

The bill would authorize appropriations over a period of three fiscal years beginning with the fiscal year ending June 30, 1965, in the following amounts: (a) \$2,000,000 to assist in the replacement or rehabilitation of existing teaching facilities for the training of veterinary medical personnel; (b) \$15,000,000 for grants to assist in the construction of new or expanded teaching facilities for the training of veterinary medical personnel. The amount of any grant in the case of a project for a new school, or for new facilities for an existing school where they are of particular importance in providing for major expansion of training capacity, may not exceed 66 $\frac{2}{3}$ per centum of the cost of construction. In the case of any other grant, the amount may not exceed 50 per centum of the cost of construction. A grant of not more than \$25,000 may be made for the purpose of preparing initial plans with estimates for proposed new construction.

Appropriations would be authorized for student loans as follows:

- (a) \$510,000 for the fiscal year ending June 30, 1964;
- (b) \$1,020,000 for the fiscal year ending June 30, 1965;
- (c) \$1,540,000 for the fiscal year ending June 30, 1966, and such sums for the fiscal year ending June 30, 1967, and each of the two succeeding fiscal years as may be necessary for students to continue or complete their education if they received a loan for any year ending before July 1, 1967. Loans for any student may not exceed \$2,000 for any academic year or its equivalent. Loans will be repayable in equal or graduated periodic installments over a ten-year period beginning three years after the student ceases a full-time course of study at a school of veterinary medicine.

Since the administration of the provisions of H.R. 490 would be under the Department of Health, Education, and Welfare, we make no recommendation as to its enactment but defer to the position of that Department.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,

JOHN A. SCHNITTKER,
Acting Secretary.

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, D.C., February 23, 1965.

B-152551.

HON. OREN HARRIS,

Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CHAIRMAN: Your letter of February 4, 1965, requests our comments on H.R. 490, to authorize a three-year program of grants for construction of veterinary medical education facilities, and for other purposes.

The bill would amend the Public Health Service Act by adding to it a new title VIII. It is declared therein to be the policy of the Congress to provide funds for construction of veterinary medical teaching facilities for public and nonprofit veterinary medical schools, thus insuring the continued production of an adequate number of properly qualified and trained veterinarians. Also, the Secretary of Health, Education, and Welfare is authorized to enter into agreements for the establishment and operation of student loan funds with certain accredited public or nonprofit schools of veterinary medicine. We have no information as to whether there is a need for the Federal Government to make grants to assist in the construction of teaching facilities for the training of veterinary medical personnel or to finance loans to students pursuing a full-time course at a school of veterinary medicine and therefore, we have no recommendation to make on the merits of the bill. We do, however, have some comments which we offer for consideration by your Committee.

No provision is made in the bill nor in legislation applicable to other grant programs now authorized by the Public Health Service Act, as amended, 42 U.S.C. 201 *et seq.*, to require a grantee to keep adequate cost records of the projects to which the Federal Government makes financial contributions, or specifically authorizing the Secretary of Health, Education, and Welfare or the Comptroller General to have access to the grantee's records for purposes of audit and examination. In view of the increase in grant programs over the last several years, we feel that in order to determine whether grant funds have been expended for the purpose for which the grant was made, the grantee should be required by law to keep records which fully disclose the disposition of such funds. We also feel that the agency as well as the General Accounting Office should be permitted to have access to the grantee's records for the purpose of audit and examination. We therefore suggest that consideration be given to amending the bill to include such requirements with respect to the proposed new grant program, or preferably to an amendment of the Public Health Service Act to cover all grant programs there in authorized. The latter could be accomplished by the following language:

"RECORDS AND AUDIT

"(a) Each recipient of assistance under this Act shall keep such records as the Surgeon General shall prescribe, including records which fully disclose the amount and disposition by such recipient of the proceeds of such grants, the total cost of the project or undertaking in connection with which such funds are given or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

"(b) The Secretary of Health, Education, and Welfare and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipients that are pertinent to the grants received under this Act."

Language similar to that suggested above is contained in section 11 of the Clean Air Act, approved December 17, 1963, Pub. L. 88-206, 77 Stat. 401, the act of May 31, 1962, Pub. L. 87-460, 76 Stat. 83, and in section 25 of the Area Redevelopment Act, approved May 1, 1961, Pub. L. 87-27, 75 Stat. 63, 42 U.S.C. 2522 (supp. IV).

It is noted that the sentence beginning on line 10 of page 18 appears to be incomplete. Also, it appears that the date "1964" on line four of page one should be "1965", and that other dates appearing on subsequent pages should be similarly advanced one year.

We have no other comments or recommendations with respect to the bill.

Sincerely yours,

JOSEPH CAMPBELL,
Comptroller General of the United States.

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, D.C., April 20, 1966.

HON. HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives.

DEAR MR. CHAIRMAN: This is to acknowledge receipt of the April 6, 1966, notice of public hearings to be held April 20, 1966, by the Subcommittee on Public Health and Welfare on H.R. 490 and other bills to authorize the construction of veterinary medical schools.

We do not plan to testify but do wish to invite your attention to the report of our Office to your committee on H.R. 490, a bill to authorize a three-year program of grants for construction of veterinary medical education facilities. In that report, B-152551, dated February 23, 1965, we suggested that a provision be added to the bill to require a grantee to keep adequate cost records and to specifically authorize the Government to have access to such records for purposes of audit and examination. May I again suggest that the language included in our letter of February 23, 1965, to accomplish this purpose be considered in connection with these bills. That language is as follows:

"RECORDS AND AUDIT

"(a) Each recipient of assistance under this Act shall keep such records as the Surgeon General shall prescribe, including records which fully disclose the amount and disposition by such recipient of the proceeds of such grants, the total cost of the project or undertaking in connection with which such funds are given or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

"(b) The Secretary of Health, Education, and Welfare and the Comptroller General of the United States, or any of their duly authorized representatives shall have access for the purpose of audit and examination to any books, documents, papers, and records of the recipients that are pertinent to the grants received under this Act."

Similar language is contained in section 909 of title IX of the Public Health Service Act as added by the Heart Disease, Cancer, and Stroke Amendments of 1965, approved October 6, 1965, Pub. L. 89-239, 79 Stat. 930. Similar language also is contained in section 604 of title VI of the Public Health Service Act as added by the Hospital and Medical Facilities Amendments of 1964, approved August 18, 1964, Pub. L. 88-443, 78 Stat. 452.

Sincerely yours,

FRANK H. WEITZEL,
Assistant Comptroller General of the United States.

The first witness this morning is our colleague from Alabama, Hon. George Andrews.

STATEMENT OF HON. GEORGE ANDREWS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALABAMA

MR. ANDREWS. Mr. Chairman, my name is George Andrews and I represent the Third Congressional District of Alabama. I am deeply grateful for the privilege of testifying in behalf of my bill, H.R. 3348, which relates to veterinary medicine.

This is the first time I have appeared before your committee with reference to the needs of veterinary medicine, but this is by no means a new problem. The profession is long suffering, and if patience builds character, veterinary medicine is truly a virtuous art.

A red flag signaling danger has been waving over this honorable profession for the last decade. In the 1950's it became apparent that as a nation we were beginning to experience shortages in the actual numbers of available veterinarians due to increasing demands.

In fact a recent study entitled "Age Distribution of Veterinarians With Projections to 1985," reached the sobering conclusion that veterinary medicine will not be able to meet its responsibilities in new fields.

More astounding than that is the study's projection of a decline after 1980 in the absolute number of veterinarians. This is due to attrition by death and retirement. Let me emphasize that we will not be able to train veterinarians as fast as we are losing them.

Existing Federal programs are already attempting to alleviate similar shortages that exist in medical doctors, nurses, pediatricians, optometrists, and the like.

Veterinary medicine is left out. It has been overlooked even though it plays an integral role in the whole arena of human medicine and public health.

You will notice I use the word "overlooked" to describe the reason for the omission. This is the only possible explanation, since on examination it becomes vividly apparent that the public health would not be nearly so well served without veterinary medicine.

If not attended to, this problem undoubtedly will become the bottleneck that prevents future growth in the whole field of medicine since its constituent sciences are closely interrelated and veterinary medicine plays an integral part in these sciences as the backbone of comparative medicine.

Those who are willing to examine the matter, quickly lose the opinion that veterinarians are simply dog and cat doctors.

The relationship of veterinary medicine to the public's health and welfare is very real and at the same time very intimate. The veterinarian not only assures that all kinds of meats are fit for human consumption, he also leads the fight in the field of zoonoses—the numerous infectious diseases of animals which are transmissible to man. There are over 100 known diseases, according to the World Health Organization, which people can, and do, acquire from animals.

In addition, the veterinarian has a key role as a member of the medical teams which quell epidemics.

These vital functions of veterinary medicine are in serious danger of being critically curtailed. It is conservatively estimated that in the next 15 years we will not have half the men in this profession that we need.

The frightening fact to realize is that these projections do not make allowance for any new fields of endeavor that veterinary medicine might undertake as the mysteries of science unfold in the vast areas of research now going on in this country. Already the veterinarian has far outgrown his standard title as "animal doctor," accepting freely the mantle of responsibility cast on him by comparative medicine, biological research, food nutrition, and space-age medicine.

We are already hurting for lack of veterinarians. When the average student graduates from veterinary school, he will be offered four positions. Of course, he can fill only one of them and many go unfilled.

The lack of sheer numbers in the profession is alarming to the casual observer, but more disturbing perhaps to those looking beneath the surface of the problem is the lack of quality in veterinary research—not as a result of professional competence, but simply because of scarcity and inadequacy of facilities.

I have heard of numerous heartbreaking situations where the tedious efforts of researchers were lost when experimental animals died or contracted diseases foreign to the particular experiment. Better facilities which allow controlled sanitation and which eliminate overcrowding could stop this waste.

After I become aware of the insufficiencies that exist in this area, and which promise to become worse, I introduced a bill which I hoped would help solve the problem. This was in the early days of the 86th Congress. Vice President Humphrey, who was then a Senator, introduced an identical bill in the other body. Senator Hill followed suit shortly thereafter, and later numerous identical measures were introduced in the House.

In every succeeding Congress I have introduced a similar bill which varied only in technical detail from the original. The proposal you are considering today calls for a program of grants for improving the plant facilities of veterinary schools. In addition, it will establish a loan program for students studying veterinary medicine.

We are confronted with a problem that is clearly of national scope, for there are only 18 schools of veterinary medicine in the country and 2 are in my home State of Alabama. Collectively, these schools must bear the burden of training all of those students from the 33 States not having schools of veterinary medicine.

These few schools cannot and should not be expected to foot the bill for a problem of such obvious significance to the whole United States.

Existing Federal program do not offer a solution to the pending crisis, and it is my considered opinion that a remedial course of action should be undertaken immediately. I recommend a Veterinary Medical Educational Facilities Construction Act of 1966 as outlined in my bill, H.R. 3348, and in numerous identical bills before this committee.

One might readily suggest with sound reasoning that the Office of Education could administer such a program or likewise the Department of Agriculture. Nevertheless, I believe evaluation reveals that the overriding consideration is the Congress responsibility to the public health.

The Public Health Service appears ready and willing to administer such a program, and the precedent for such placement of the responsibility can be easily drawn from similar programs already tendered by the Public Health Service. I might add that they do a commendable job of it.

The Department of Agriculture has issued several reports pointing up the critical needs in veterinary medicine. The United States Department of Agriculture also recommends remedial action like that called for in H.R. 3348.

The Bureau of the Budget, as you know, does not have such a program earmarked for the coming fiscal year, but officials have not issued a negative report. To the contrary, they give every indication of being favorably disposed. Contingencies exist in the 1967 budget which could make room for a program designed to prevent the collision course veterinary medicine is now traveling.

The first purpose of the Veterinary Medical Education Facilities Construction Act is to authorize aid in the form of grants for existing and new schools of veterinary medicine. The administration of the provisions of this bill would be under the Department of Health, Edu-

cation, and Welfare. The bill would provide for the construction of veterinary medical educational facilities including new buildings and equipment.

Secondly, it provides for expansion, remodeling, and alteration of existing buildings as well as containing provisions for the establishment and operation of a student loan fund.

The bill would authorize appropriations for a period of 3 fiscal years in the following amounts:

(a) Two million dollars to assist in the replacement or rehabilitation of existing teaching facilities for the teaching of veterinary medical personnel;

(b) Fifteen million dollars for grants to assist in the construction of new or expanded teaching facilities for the training of veterinary medical personnel.

The amount of any grant in the case of a project for a new school, or for new facilities for an existing school where they are of particular importance in providing for major expansion of training capacity, may not exceed 66 $\frac{2}{3}$ percent of the cost of construction. In the case of any other grant, the amount may not exceed 50 percent of the cost of construction. A grant of not more than \$25,000 may be made for the purpose of preparing initial plans with estimates for proposed new construction.

Appropriations would be authorized for student loans as follows:

(a) \$510,000 the first year; (b) \$1,020,000 the second year; (c) \$1,540,000 the third year; and such sums for the fourth year, and each of the 2 succeeding fiscal years as may be necessary for students to continue or complete their education which was made possible by this act.

Loans for any student may not exceed \$2,000 for any academic year or its equivalent, and they will be repayable in equal or graduated periodic installments over a 10-year period, beginning 3 years after the student ceases a full-time course of study at a school of veterinary medicine.

I respectfully request the committee's permission to insert in the record following my statement several studies and written testimony by experts in the field of veterinary medicine. I believe this material will be very helpful in documenting the needs in this expansive profession.

With your permission, Mr. Chairman and members, I would like to insert a statement by Dr. Robert J. Anderson, Deputy Administrator, Agricultural Research Service, U.S. Department of Agriculture, before them Association of State Universities and Land-Grant Colleges, Chicago, Ill., November 12, 1963.

(The statement referred to follows:)

MANPOWER NEEDS OF FEDERAL VETERINARY MEDICINE IN 1980

(By Dr. Robert J. Anderson, Deputy Administrator, Agricultural Research Service, U.S. Department of Agriculture, before the Association of State Universities & Land-Grant Colleges, Chicago, Ill., November 12, 1963)

It is a pleasure to meet with you today for this exceedingly interesting and important discussion of manpower needs by 1980. Every profession benefits by stopping from time to time to take a long range view of the past and future. The veterinary medical profession is no exception.

However, it is a little appalling in this age of rapid change in all scientific disciplines to be faced with a crystal ball and attempt to predict the future of any

science during the next 17 years. Never before in the history of mankind has research developed new knowledge so rapidly as in our own generation. Many of us in this room can remember the early automobiles and the amazement of our people that mankind could withstand the pressure of rushing along the roads at 30 miles an hour. We can remember when the moon was little more than a pleasant adjunct to lover's lane. Today, man is orbiting the earth in a matter of minutes and talking quite sanely about traveling to the moon.

Scientific progress in just the past 20 years has been phenomenal, and veterinary medicine is changing along with the rest of the scientific world. We are looking at disease-causing agents as small as the foot-and-mouth disease virus through electron microscopes, and trying to find out how hormones and antigens form antibodies in the blood. We're using screwworm flies made sterile by radioactive cobalt in the campaign to eliminate this insect pest.

The veterinary medical profession represented by the private practitioner is providing the major protection for animal health through regular contacts with livestock and pets. In fact, two-thirds of the 21,000 veterinarians in this country are engaged in private practice. But some problems in research and in disease control and eradication defy solution by the individual livestock producer and his practicing veterinarian. These problems require the concentrated efforts of many people, scattered over wide areas and across many State and county lines. Thus, they fall naturally into the public domain of State and Federal governments.

Also, the Federal government is required by law to provide such veterinary medical services as meat inspection to set high national standards for clean, wholesome meat and meat products that move in interstate trade; and for safe and effective biologics to be used in veterinary medicine. Thus, one-third of the veterinarians in the country are in State or Federal service . . . teaching, conducting research, or engaged in regulatory activities.

The public recognition of *national* responsibility for these services is not new. Federal veterinary medicine is 79 years old this year. On May 29, 1884, President Chester A. Arthur signed legislation enacted by the Congress creating the first Federal program to combat animal diseases, beginning with contagious pleuropneumonia. This act established the Bureau of Animal Industry within the U.S. Department of Agriculture. A small veterinary division was already operating within the Department, but this Act of 1884 created Federal veterinary medicine as we know it today.

The new Bureau was headed by Dr. D. E. Salmon, and by the following year had been staffed with 15 of the most competent veterinarians that could be gathered from all over the country. Through their organization of a State-Federal eradication program, pleuropneumonia was eradicated in 1892. In 1893 the Bureau's research efforts identified the cattle tick as the carrier of "Texas fever." Their discovery of the cause of hog cholera led to the development of hog cholera serum, first used successfully in 1907.

From these early beginnings the U.S. Department of Agriculture has continued to conduct veterinary medical research and apply the results in active programs—in cooperation with the various States—to control and eradicate animal diseases and pests. We can see the same policies as those of the pleuropneumonia campaign in action today in the programs against the screwworm, hog cholera, bovine tuberculosis, and brucellosis of cattle and swine.

In addition to those services provided by the U.S. Department of Agriculture, the Federal government also fulfills part of its responsibilities in veterinary medicine through other agencies. For example, the United States Public Health Service carries on veterinary research in such fields as cardiovascular, degenerative, and infectious diseases. The animal hospital at the National Institutes of Health investigates new clinical and surgical approaches to aid animals victimized by accident or crippling diseases.

The Wildlife Research Centers of the U.S. Department of the Interior conduct research on wildlife diseases.

Military veterinarians conduct research on animal diseases transmissible to man, in addition to their work as members of research teams investigating human diseases and problems of artificial environment, such as man would encounter in space travel.

So, for the past 79 years, the veterinary profession has supplied the manpower to fill these public needs, to aid in protecting the nation's food supply and the health of our people and our livestock.

By the year 1980, Federal veterinary medicine will be approaching its centennial year. We know the manpower requirements for its services will be

greatly increased. It is difficult if not impossible to be specific in assessing exactly how much. But we can make a start at judging future needs by looking at what we know from experience.

For example, the average span of a veterinarian's activity in his profession is 30 to 35 years. So, just by the mere passing of time, we are losing manpower. We in the U.S. Department of Agriculture have found that counting those who have resigned, retired, or otherwise leave Federal service, we lose about 250 veterinarians every year. If we count on no more than filling these normal vacancies, by 1980 the USDA would require over 4,000 veterinarians just to hold our own.

In addition, we can calculate specifically that new jobs will have to be filled in such positions as meat and poultry inspectors for plants that are opening or going under Federal inspection for the first time. Today in Federal Meat Inspection, we have a total of 3,200 both veterinarians and trained inspectors. Of these, 817 are veterinarians who are required to have at least six years of study in an accredited college of veterinary medicine before they can qualify for civil service examination. We are required to add from 15 to 18 veterinarians to the staff every year to fill new positions. That would mean an *additional* 300 veterinary meat inspectors in new jobs by 1980. Furthermore, about 1,445 veterinarians will be separated from the service by that time.

In poultry inspection, we employ an average of 540 veterinarians a year. We normally add from 10 to 15 new jobs each year, and we lose about 85 a year. That would mean a total of 1,530 veterinarians needed in poultry inspection by 1980, for replacement and new jobs. And so, to add these together, by 1980 we would need a total of about 3,280 veterinarians to fill new jobs and to replace those who leave the service in poultry and meat inspection alone. The permanent staff in these services would be about 1,900 veterinarians by that time.

These figures are based on what we can expect if we expand at the same rate as we have in the past. But we can realistically anticipate these needs to increase as demands for meat and meat food products expand with a growing population. We can also expect a growing demand from consumers that all meats be under either Federal, State, or municipal inspection. That would mean increased veterinary manpower at each level.

In other types of regulatory work, USDA has 82 veterinarians engaged in animal inspection and quarantine activities and 731 engaged in disease control and eradication. How many more will we need by 1980? As world travel expands, the job of inspecting borders and ports of entry gets bigger. Last year more than 173 million people entered the United States. Inspectors examine baggage to intercept forbidden meats and other materials that might introduce disease. We turned back more than 66,000 animals out of well over a million inspected for importation. Of course, not all the inspectors are veterinarians. . . . But it is necessary to have competent veterinary supervision in order to provide effective protection against the entry of foreign diseases. We may have to increase our veterinary staff to keep pace with increasing needs.

The number of veterinarians required to conduct disease control and eradication programs depends on several variables. For example, if we are successful in eradicating some of the diseases and pests we are now combating, then some of the veterinarians engaged in this work will be free for other duties. If veterinary research provides the knowledge for eradicating some of the diseases we are now living with because we do not know how to get rid of them, then we may put other programs into effect. But if we have no major outbreaks of foreign diseases, and if we continue to conduct routine control and eradication programs, we should need about 800 veterinarians in this work by 1980.

In 1963 the U.S. Department of Agriculture has nearly 90 veterinarians engaged in research in animal diseases and parasites and in animal husbandry. The rate of expansion in these research areas is even more difficult to predict than in the regulatory activities. There is plenty of work to be done. At least 100 infectious diseases of cattle, swine, poultry, and other livestock are prevalent in the United States. Many of them are old enemies. Mastitis and the shipping fever complex cause some of our greatest losses in livestock production today—and have been causing them for many years. But we still have found no methods of effective control or eradication.

In 1963 the U.S. Department of Agriculture has nearly 90 veterinarians break out at any time—rinderpest, Rift Valley fever, fowl plague, or foot-and-mouth disease. We must continue to search for ways to eradicate them if they should appear.

We know we will need more research veterinarians. We know that as livestock and poultry numbers increase, so will disease problems. It has been estimated that every time livestock numbers are doubled, the disease problems increase four-fold.

We can expect increasing demands for Federal and State veterinarians specially trained in epidemiology and differential diagnoses. As livestock and poultry producers continue to increase their investment in their operations, they will be willing—and even compelled—to spend more time and money to protect that investment from losses from diseases and pests. We have already noted an increasing demand for diagnostic laboratories, particularly in areas of heavy poultry production.

Federal veterinarians outside the U.S. Department of Agriculture will also be faced with increased demands for their service. For example, as explorations into space travel continue, we can expect increased requirements for veterinary manpower. The earliest travelers into each new phase of space travels are animals . . . and veterinarians are evaluating the effects of the new environment on animal tissues. The answers are then translated into possible effects on man.

As the agencies and institutions engaged in protecting human health gain more knowledge through research, the close relationship between human and animal health becomes more apparent, particularly in the field of zoonoses. Therefore, it is probable that more veterinary manpower will be in demand for research in diseases affecting man than we have seen in the past.

These same needs for Federal veterinarians will be reflected in the research and regulatory institutions in the various States. The State colleges and universities will probably find increasing demands for veterinarians in both their research and teaching staffs. The most important of these requirements will be in their schools and departments of veterinary medicine.

The colleges form the basis for all our hopes for the future strength and progress of the veterinary medical profession. If we are to meet the requirements for Federal veterinary manpower in 1980, we must look to the schools of veterinary medicine to provide the training necessary to prepare their graduates for the complexities of our research and regulatory work. We will hear much more about this problem later today. But I would like to point out now that it is urgently important for the colleges that train veterinarians to continue to evaluate their curricula to make sure they are providing a thorough knowledge of regulatory veterinary medicine among the other vitally necessary preparation. If Federal veterinary medicine is to meet its obligations in the future, we need veterinarians with this knowledge. We need veterinarians with an inquisitive and imaginative mind, capable of understanding and applying the principles of epidemiology to livestock and poultry diseases.

We will continue to need veterinarians who are stimulated to dig deeper into the unknown on the outer fringes of the medical knowledge through research. It is in the colleges and universities where this stimulation begins. We can all be proud of the record of the Land-Grant Colleges and Universities in preparing the veterinarians who have made an outstanding record in solving animal health problems in the United States. I know we can expect these institutions to meet the challenges of the future even though the burden of responsibilities will be heavier than ever before.

And so, in short, we know that by 1980 the demands for veterinary manpower in Federal and State activities will be substantially higher than they are today.

If the projected figure of 40,000 veterinarians needed in the United States by 1980 is approximately accurate . . . and if the proportion in private practice remains about the same, then about 13,000 veterinarians will be needed in public service.

However, any estimate of exact numbers for manpower by Federal or State governments is necessarily limited in meaning because the extent of such public activities is determined by the will of the people . . . as expressed through the U.S. Congress and State legislatures. We believe the people of the Nation will continue to want the veterinary manpower necessary to protect human and animal health and to maintain the high standards of our national diet with the meat, milk, and eggs we need to feed an expanding population. The veterinarians of tomorrow, in public service and in private practice, will be increasingly necessary to the national welfare.

Mr. ANDREWS. A statement by Dr. Fred C. Davidson, dean, School of Veterinary Medicine, University of Georgia, April 12, 1966.

(The statement referred to follows:)

STATEMENT OF DR. FRED C. DAVIDSON, D.V.M., DEAN, SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF GEORGIA, ATHENS, GA.

Current recipients of the degree, Doctor of Veterinary Medicine are, as a group, the finest trained biologists in the world. In fact, they are the only professionals whose education is directed primarily toward comparative medicine and comparative biology. The value of such training is being recognized on an ever increasing scale by all segments of the health professions community and this recognition has resulted in an acute demand with a resulting shortage of veterinarians. Current graduates are faced with an almost bewildering array of opportunities in biomedical research, public health, food technology, space medicine, teaching, regulatory medicine, military veterinary services, and many others. These challenges are in addition to those associated with our continuing responsibility as stewards of animal health in this country.

The veterinarian's role in an expanding society cannot be over emphasized. His training, ability, and potential in biomedical research are unique. His responsibility for the continued production of safe food derived from animals has great economic and social significance. His concern with those diseases transmitted between animals and man is an important segment of the public health effort.

An estimate of the ratio between opportunities and graduates in the School of Veterinary Medicine, University of Georgia, is conservatively 4 to 1. Likewise, applications being made by qualified students for the opportunity to study veterinary medicine in the class beginning next fall at this school are approximately 3 to 1. I understand that we are typical. The obstacle separating this large body of capable young people and the opportunities and demands presented by society are the schools of veterinary medicine. Output is small because current physical facilities will not allow the training of additional people.

Veterinary medical education is expensive and in most instances it is regional and for that reason, it seems unlikely that training of students will be greatly accelerated without help from the federal government. Such help would be provided by the proposed legislation now before Congress designed to aid in constructing veterinary medical facilities.

The School of Veterinary Medicine at the University of Georgia is an example of a regional school. It serves the states of Maryland, Virginia, North Carolina, South Carolina, and Georgia, through agreements with the Southern Regional Education Board. Under this program the states of Maryland, Virginia, North Carolina and South Carolina each place approximately ten students per year in our institution with the remaining twenty-five coming from Georgia. At the present time, there are 200 pre-veterinary students enrolled in two institutions in the state of Georgia alone. Evaluation of conditions in the compact states indicates that a comparable situation is developing on a regional basis. It would indeed be unfortunate if facilities cannot be expanded to offer training to more of these young people. It would be unfortunate not only in the sense that they would be deprived of an education but in a greater sense in that society would be deprived of their activities. For I am firmly convinced that the veterinarian's role in animal and public health combined with his research potential in comparative medicine and in the fundamental medical sciences will contribute in a major way in determining not only how we will live in the future but in fact, if many of us will live.

Mr. ANDREWS. A letter from the vice president for academic affairs, Mr. George C. Christensen, of Iowa State University.

(The letter referred to follows:)

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY,
Ames, Iowa, April 12, 1966.

HON. JOHN JARMAN,
Subcommittee on Public Health and Welfare,
House of Representatives, Washington, D.C.

DEAR MR. JARMAN: It has been brought to my attention that your subcommittee will soon hold hearings on the veterinary medical education facilities bills which have been introduced to Congress during the past year. It is my sincere hope that your subcommittee will recommend the passage of these bills.

As you know, the profession of veterinary medicine has reached a position of great importance to the health and economy of the United States. Without highly educated doctors of veterinary medicine, this country could not safeguard the purity of food which goes to civilians and to the armed forces. If the number of veterinarians becomes insufficient, the loss of livestock and poultry through disease and malnutrition would seriously affect the economy of the nation. A lack of veterinarians would also jeopardize the efficient operation of the U.S. Public Health Service, the Federal Drug Administration, and the Agricultural Research Service. It would also endanger the critical research being conducted in medical schools, veterinary schools, governmental research institutes, and in pharmaceutical companies.

It is essential that the enrollment of students in veterinary medical colleges be doubled as soon as possible. Funds for building additions and replacements must be made available. Since the services of the veterinary profession are needed throughout the United States, it is unfair to assume that 18 states will continue to provide all the funds for veterinary medical education. The federal government should assume its share of this cost by providing funds for educational facilities.

I respectfully submit that the Subcommittee on Public Health and Welfare will do this nation a great service by approving of the passage of bills which provide for the funding of veterinary medical education facilities.

Sincerely yours,

GEORGE C. CHRISTENSEN,
Vice President for Academic Affairs.

Mr. ANDREWS. A letter from Dean Ralph L. Kitchell, Iowa State University.

(The letter referred to follows:)

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY,
COLLEGE OF VETERINARY MEDICINE,
Ames, Iowa, April 15, 1966.

HON. JOHN JARMAN,
*Subcommittee on Public Health and Welfare,
House of Representatives, Washington, D.C.*

DEAR MR. JARMAN: It is our understanding that your subcommittee will soon be conducting hearings on veterinary medical facilities bills. The purpose of this letter is to solicit your support for these bills as there are great needs for additional facilities to permit increasing the numbers of veterinarians graduating each year.

To those of us charged with anticipating needs the tremendous interest of young people in veterinary medicine is truly amazing. Just as striking are the many requests we get from a wide variety of sources for information about where can they procure a veterinarian who would be available to meet a need. This ever increasing demand is gratifying to educators as it indicates that our principle product, the graduating veterinarian, is being trained satisfactorily because his performance encourages society to want additional veterinarians. The tremendous demand for veterinarians is due in part, that, like physicians, veterinarians are completely trained in medicine. This total training in medicine permits us to make contributions to society through a wide range of services.

The College of Veterinary Medicine at Iowa State University is the oldest veterinary medical college in the United States. Traditionally, Iowa State has exported a large number of its graduates to other states. We have been more concerned that the sons and daughters of Iowa residents have a reasonable chance of becoming members of the veterinary medical profession than in just simply supplying only the needs of the state of Iowa for veterinary services. Approximately one-fourth of our students admitted each year are not residents of Iowa. Presently, so many are applying for admission to our veterinary medical college that we, in my opinion, are not offering Iowa residents a reasonable opportunity to have their sons and daughters educated in veterinary medicine. It is becoming increasingly difficult for us to help meet the needs of other states. It is for these reasons, and for many more, that the federal government should define the needs of veterinary medical colleges for facilities as a federal concern and share with the various states the costs of educating veterinarians to meet the needs of the entire nation. Iowa State will continue to do all it

can towards meeting these needs. If the federal government assists the state of Iowa by helping build additional facilities, we can then naturally expand our teaching activities and accept more students especially students from states which do not have veterinary medical colleges.

Sincerely yours,

RALPH L. KITCHELL, *Dean.*

Mr. ANDREWS. A statement by Mr. George C. Poppensiek, dean, New York State Veterinary College, Cornell University.

(The statement referred to follows:)

STATEMENT OF GEORGE C. POPPENSIEK, DEAN, NEW YORK STATE
VETERINARY COLLEGE, CORNELL UNIVERSITY, ITHACA, N.Y.

The New York State Veterinary College at Cornell University hereby affirms its wholehearted appreciation and support for the Veterinary Education Facilities Act currently under consideration: The Leggett Bill, H.R. 490, and other related legislation which will help to provide expanded and improved facilities for education in our profession.

We are gratified to recall that this committee has already demonstrated its concern for progress in the paramedical sciences by authorizing the Health Professions Education Assistance Amendment of 1965 and providing \$200,000,000 for Schools of Medicine, Dentistry, Osteopathy, Optometry and Podiatry. We are confident that the corresponding needs and potentialities in Veterinary Medicine will be reviewed with equal thoughtfulness and that legislative support will be forthcoming.

We envision the realm of Health, Education and Welfare as being a wheel in which several strong spokes are needed for maximum efficiency. The wheel spoke labeled "Veterinary Medicine" fills the large gap between the spokes of "Agriculture" and "Human Medicine," but it needs the lengthening and strengthening which Congress is now in a position to offer.

For reasons obvious and meritorious, Human Medicine has traditionally enjoyed substantial federal assistance. Likewise, agriculture has been represented on the President's Cabinet, with a huge governmental agency to minister to its needs. It is understandable, from an historical viewpoint, how this has come to be. Agriculture and Human Medicine "came of age" at an earlier period than Veterinary Medicine and thereby won separate identity and strong monetary support from the government.

However, the present-day realities are that veterinary science has become a highly sophisticated discipline and an indispensable part of the nation's program in health and research. As is usually the case, reputation has lagged behind performance; thus the layman's mental image and comprehension of veterinary medicine is apt to be outdated by several decades of progress. Fortunately, the scientific community is sensitive and alert to the emergence of veterinary science as an invaluable member of the team. Signs of the times would include the following:

1. Hundreds of research projects are being carried on in the nation's eighteen veterinary colleges under governmental sponsorship. Our college alone has 45 such projects with annual support in excess of \$1,800,000.

2. Many of the federally sponsored projects are initiated by governmental agencies which request the colleges to explore specified areas. Within the past two years, for example, Cornell's Veterinary College was approached by the National Cancer Institute to conduct an investigation of feline leukemia with funding of \$100,000 per annum. We have also accepted a request from the United States Department of Agriculture to explore lymphosarcoma (cancer) in cows with the USDA contributing \$50,000 annually.

3. The Communicable Disease Center of the United States Public Health Service has a large and growing veterinary division concentrating on diseases of animals transmissible to man.

4. Over 60% of the medical colleges in the United States now have veterinarians on their staffs.

It would seem appropriate to remind this committee of the basic ways in which the veterinarians of the United States are contributing to the nation's health, well-being and prosperity:

Nutrition.—Fifty percent of the food products consumed in the country are derived from animals in meat and dairy products. That the animals survive

illness and give forth healthful produce is part of the veterinarian's responsibility. The fact that the livestock population (currently 200,000,000) has always exceeded the human population is suggestive as far as future need for more animals and increased veterinary service.

Economy.—The value of the livestock in America today exceeds \$50 billion. When one considers the ancillary and derivative occupations associated with livestock (the clothing industry, for example) the cataclysmic possibilities of rampant animal disease become apparent. The aforementioned statistics, incidentally, do not include poultry—an industry which produces four billion dollars annually and is the chief source of livelihood and income in eight of our fifty States. Avian (poultry) diseases are taught, treated, and controlled by the veterinary profession.

Disease control.—The maintaining of a healthy animal population is not merely an end in itself; for there are more than 200 infectious and contagious sicknesses which can be transmitted from animals to man (and vice versa). Human cripples (tuberculosis, brucellosis, psittacosis) and outright killers (anthrax) have been under the veterinarian's surveillance and control for decades and have steadily declined in incidence in this country.

Comparative medicine.—Apart from diseases transmitted from animals to man, there are organic disorders (cardiovascular disease, malignant tumors, diabetes) which appear in both categories and which can be better attacked in man as they are observed and understood in animals. Now the veterinarian is dedicated to preserving the life and comfort of his animal patients. However, he shares the values of the American community which place human life infinitely higher than animal life. Therefore he is willing, under humane circumstances, to explore and even induce certain unsolved diseases into lower species for study purposes. Moreover, he is able to raise laboratory animals under controlled circumstances (genetic inbreeding, etc.) which, for sound moral reasons, would never be considered among human beings.

Companion animals.—We would be remiss if we neglected to mention the treatment of dogs, cats, light horses and other companion animals whose health is in the hands of our professional practitioners. In terms of human survival, it might be said that non-productive creatures were a luxury. But the United States has been blessed with a standard of living and a way of life which is far beyond mere survival. And to the 30,000,000 American families with household pets the availability of veterinary service is well-nigh essential.

Mr. ANDREWS. A statement by Dr. C. L. Campbell, director of the division of animal industry, department of agriculture, Florida.
(The statement referred to follows:)

STATEMENT OF THE UNITED STATES LIVESTOCK SANITARY ASSOCIATION

Mr. Chairman and members of the committee, I am Dr. C. L. Campbell, Director of the Division of Animal Industry of the Florida Department of Agriculture, as well as State Veterinarian of Florida, and am presenting this statement today as President of and spokesman for the United States Livestock Sanitary Association in presenting our views concerning the needs for increased veterinary medical teaching facilities. These statements are made in support of H. R. 490, H. R. 3348, H. R. 11205, and H. R. 14220.

Since the first veterinary college was established in the United States in 1854, our profession has grown to the stature of a highly diversified profession numbering more than 24,000 members in North America. As scientific advancements have occurred within the profession and its members have increased in numbers, the affairs of veterinary medicine have become increasingly complex. The profession today has many facets. Not only are veterinarians actively engaged in diagnosis, treatment and control of a broad spectrum of diseases among many species of animals, but they are also valued and respected members of the nation's military, research, and public health teams.

In that field with which the majority of the members of the United States Livestock Sanitary Association are engaged, that of regulatory veterinary medicine and public service, approximately one-third of the nation's veterinarians are involved. Based upon current and projected requirements, it has been estimated that by 1980, 13,000 veterinarians will be needed in the field of public service.

History has repeatedly shown that a nation that cannot feed itself, can no longer remain strong and independent. History has repeatedly shown that live-stock diseases uncontrolled can and will destroy a nation's source of food. History has repeatedly shown that there is only one way to combat, control or eradicate livestock diseases and that is by application of sound veterinary medical principles by skilled veterinary medical scientists.

We can report with pride that livestock health in these United States is good. As a direct result of this livestock health status we can, again with pride, report that the food supply of animal origin is abundant, wholesome, safe and nutritious. We know this did not "just happen." This most important, most favorable situation could not have been possible without the control of livestock diseases. The challenge to those given the responsibility to keep it this way is great, is vital to the health of the nation, and is increasingly complex. We have been and are now facing the grim reality that there are inadequate numbers of veterinarians available to safeguard this nation's source of food and to assure a safe food supply. The prospect for the next twenty years unless immediately corrected is that the situation will become most critical. It has been reliably estimated that the United States will need at least 47,000 veterinarians by 1980, approximately twice the present number. Utilizing present educational facilities to a maximum would still leave a shortage of 7,000 to 8,000 by 1980. This nation cannot afford the risk of such a shortage.¹

The importance of the modern veterinarian was very well expressed by the present Vice President of the United States when, on December 18, 1963, in introducing the Veterinary Medical Educational Facilities Construction Act of 1964, the then Senator Hubert H. Humphrey made the following statements: "Today's veterinarian spends six to eight years in acquiring his education; two years of minimum pre-veterinary work, and four years in colleges and schools of veterinary medicine.

Today's veterinarian serves the human population. I emphasize, serves man himself, in four broad areas.

First. Removal of animal reservoirs of infection to man through the eradication and control of those many diseases which are transmissible to man.

Second. Development of preventives or treatments for animals that can be adapted for use in human medicine.

Third. Supervising programs in food hygiene that protect the consumer against food-borne diseases.

Fourth. Participating in the basic medical sciences in studying disease processes in animals, especially analogous or similar to those in man."

An excellent example of the reduction of a most insidious disease transmissible from animal to man is that of tuberculosis in cattle. The incidence of tuberculosis in cattle has been reduced from 5 per cent in 1917 to 0.1 per cent in 1965. In 1917, well over 2,000 cattle per 100,000 were condemned under the federal meat inspection program because of tuberculosis. In 1964, less than 2 cattle per 100,000 were condemned for this reason. The death rate for tuberculosis in man in 1917 was 125 per 100,000. In 1964, it was a little over 5 per 100,000. Although the reduction of tuberculosis in cattle is not solely responsible for the decline of the disease in man, it has played a major role. The joint efforts of government veterinarians and veterinary practitioners have been responsible for the near elimination of human extrapulmonary and pulmonary tuberculosis of bovine origin from most of North America.

This nation cannot afford to be second-rate either in numbers or in the quality of its veterinarians in future years. For us to remain strong we must maintain a healthy status. Such a status is dependent to a great extent upon today's veterinarian in the role that he plays with the nation's livestock population.

I respectfully submit that this most important need should receive the most conscientious consideration of your Committee.

Mr. ANDREWS. A statement by Dr. T. S. Williams, dean, School of Veterinary Medicine, Tuskegee Institute.

¹ Excerpt from Presidential address made by Dr. J. W. Safford at the 69th Annual meeting of the United States Livestock Sanitary Association, Lansing, Michigan, October 27, 1965.

(The statement referred to follows:)

STATEMENT OF DR. T. S. WILLIAMS, DEAN, SCHOOL OF VETERINARY MEDICINE,
TUSKEGEE INSTITUTE

The broad scope of veterinary medicine demands educational facilities far in excess of those now in existence, if we are to meet the challenge to educate the veterinarians this country will need by 1980. Reliable estimates have been made to indicate that our nation will need approximately twice the present number of veterinarians by 1980. Existing facilities of the veterinary medical schools of this nation simply will not be adequate to provide the number of veterinarians needed.

Funds are not now available, through existing channels for our veterinary schools, to provide the additional facilities needed to train the increased number of students to meet the need in the years ahead. This nation cannot hope to fulfill its true potential for maximum scientific and medical advancement without increasing the number of trained scientific personnel in this vital profession. The needs for qualified trained veterinary personnel are numerous in every facet of the broad field of veterinary medicine. This need is but a part of the general demands for trained personnel needed for the health related sciences, but the expanding horizons of the field of veterinary medicine are creating new vistas which simply compound the existing shortage of veterinary personnel. The combined activities of teaching, research, and other related professional activities of the veterinary profession, are difficult, if not actually impossible to separate from those of human medicine. Unfortunately too few of our citizens fully recognize the relationships and contributions of the veterinary profession to public health. Each of the professions of the "healing arts" share the responsibilities for safe guarding the health of the Nation's public. Veterinary medicine has a real responsibility to the nation's public in that it safe guards the health of the nation's animal population. Apart from this primary function, the present concept of veterinary medicine places the health of every living being within the scope of its broad range of professional activities.

The full economic significance of the veterinary profession to our nation should not be minimized. Our veterinary practitioners constitute the first line of defense against disease to our ever-expanding livestock industry. The cooperative efforts of veterinarians in both Federal and State Governments have accomplished signal advances in the control of livestock diseases which threaten not only the health of our livestock, but our nation's health as well. One of the most exciting chapters in our national history is the story of the successful eradication of challenging livestock diseases by veterinarians of our U.S. Department of Agriculture. This has contributed to the fact that this country is perhaps the safest country in the world in which to raise livestock and poultry. Veterinary inspection of our food animals at slaughter is the reason this country enjoys the most bountiful supply of safe, wholesome food of animal origin of any country in the world. Veterinary medical research singly or in concert with allied medical sciences, has been, and remains an indispensable part of research in problems of human health. In our own laboratories at Tuskegee Institute comparative studies in cardiovascular physiology and pathology using the horse as the biological model offer unlimited potential for contributions to storehouse of knowledge in science and medicine. Quite often, health problems in our animal population parallel those of man. Veterinary medicine then is in a particularly strategic position to contribute to the solution of these problems for both man and his animals. Our full potential is only limited by personnel and facilities to train these personnel to carry on this significant work.

The bills now before this congress would authorize a program of grants for construction of veterinary medical educational facilities that are urgently needed to meet the demands for expansion of existing facilities. The veterinarians needed in the years ahead cannot be educated without this assistance. Our own facilities at Tuskegee Institute urgently need to be expanded and modernized to meet the rapidly changing advances in the field. We cannot hope to meet these needs without this legislation. Traditionally Tuskegee Institute has served a disadvantaged segment of our nation; we shall very probably continue to serve this group for some years ahead. Unfortunately far to

many bright young high school students of this region, who desire to study veterinary medicine, cannot do so because they do not have the financial security necessary for a minimum of six years of education in veterinary medicine. The loan provision of these bills would give this disadvantaged group a promise of a better life and a chance to be of signal service to the region and the nation.

Here at Tuskegee Institute the growing interrelationship of interprofessional activities between veterinarians, physicians, dentists, and basic biologists in a team approach to basic understandings of life processes leads us more and more to the realization that the "one medicine" described by Sir William Osler is to be a reality in our time.

If we are to meet the many expanding needs for competent veterinary personnel and services, it is imperative that educational facilities for training these veterinarians be increased. This cannot be done without the assistance that these proposed bills will provide.

Mr. ANDREWS. A statement by American Association of Equine Practitioners.

(The statement referred to follows:)

STATEMENT ON BEHALF OF THE AMERICAN ASSOCIATION OF EQUINE PRACTITIONERS

Mr. Chairman and Members of the Subcommittee: I am Wayne O. Kester, Executive Secretary and Treasurer of the American Association of Equine Practitioners. I am a past president of the American Veterinary Medical Association and a retired Chief for Veterinary Services of the U.S. Air Force.

The equine industry in this country is one of the most fascinating social and economic phenomena of our time. Fifty years ago the industry was on its deathbed. Today, propelled by an era of prosperity that followed World War II, the industry has flourished and continues to grow. No exact figures are available on its size, in part, because the U.S. Department of Agriculture excluded the horse from its farm census since 1959. However, various sources estimate that there are 6 to 7 million horses today in the United States. This includes ponies, light horses, and draft horses.

The equine industry has made a firm impact on the economy and youth activities of our nation. According to survey conducted in 1965 by the Thoroughbred Racing Commission of California in cooperation with California Polytechnic University, the total value of the equine population in America and the industries it supports exceeds \$2 billion. The Morris Animal Foundation has estimated the total equine feed bill at \$500 million annually. Racing capital investment has been estimated by the Foundation at \$1 billion and the annual tax contributions of the industry at another \$1 billion. From 1959 to 1964, 4-H equine projects had a threefold increase. Last year there were more equine 4-H projects than any other type of 4-H livestock endeavor and, this year, one-quarter of a million children are engaged in organized equine projects.

One of the major concerns of the equine industry is the problem of equine health. Each year veterinarians have to fight diseases that continually plague the industry (e.g., equine infectious anemia, equine piroplasmosis (a blood disease), the encephalitides (sleeping sicknesses), infertility, and various paritisms).

The two diseases, equine infectious anemia and equine piroplasmosis, impose a health and economic threat of catastrophic magnitude to the total horse industry of the United States. Since 1960, equine infectious anemia has been reported in all but five states. For example, at one race track last year, there were 38 suspected cases, 25 confirmed cases, and 20 deaths. This disease is an obvious threat to a sizable source of tax revenue in those states in which horse racing is conducted.

Equine piroplasmosis was first diagnosed in the United States in Dade County, Florida, in 1961. Subsequent diagnoses were confirmed in southern Georgia and Puerto Rico. The clinical signs of this blood disease are similar to those of equine infectious anemia.

Southern Florida receives approximately 6,000 Thoroughbreds each winter for training and racing from other parts of the United States. The threat of transporting these diseases to the areas from which the horses come is ever present.

In 1912 an estimated 25,000 horses died in Oklahoma, Nebraska, Missouri, Kansas, and Colorado due to viral encephalitis, and in 1964 an outbreak of western encephalitis in Illinois horses was one of the most widespread on record. Occurrence of encephalitis in man is sporadic but represents an extreme public health hazard. Besides fowl and wild birds, horses can harbor the causative agents. These agents are transmitted to man by mosquitoes.

Veterinarians are the safeguards of the equine industry by maintaining the health of horses, mules, burros, and ponies. Increased leisure time has caused many riding clubs to be started in and around urban areas providing a different form of recreation for many people. Veterinarians are also involved in solving infertility problems in breeding operations; deciding whether or not a horse is capable of racing; operating ranch practices where the horse is used as a valuable animal in various aspects of beef herd management, i.e., herding, culling, and branding. Today, equine animals constitute an important portion of the patient load in all veterinary college clinics.

The equine's increase in value, as well as its acceptance as a companion animal, has automatically created a demand for increased knowledge in the problems of therapy and research. The usefulness of radiation and ultrasonic therapy; counter-irritant therapy; surgery in orthopedic therapy; mineral and vitamin supplementation; new medications, vaccines, antibiotics, and many older drugs need to be determined on the basis of sound and substantial scientific evidence.

In 1955, \$40,000 annually was being spent nationally for equine research. In 1967, it is anticipated that \$900,000 will be spent on equine research to continue studies in nutrition, vaccine discovery for control of parasites, function of the digestive flora, and improved diagnostic techniques for identifying the principal equine diseases.

The veterinary profession, realizing its dedication to maintaining the healthy commodity upon which the equine industry flourishes, organized a segment of its population to meet the challenge of the burgeoning equine population. The American Association of Equine Practitioners has grown from 47 members in 1955 to 1,070 in 1965. It includes veterinarians engaged in equine practices of many types, and its growth is indicative of the need for more veterinarians trained in this specialty for practice and research. Allied to this need, additional colleges of veterinary medicine need to be constructed; present colleges need expansion of existing facilities; and adequate student loans need to be provided to cope with the increasing shortage of veterinarians in the United States. If the present and predicted shortages of veterinarians are not alleviated, all phases of the animal industry of this nation will be in jeopardy.

I wish to thank the Chairman and Members of this Subcommittee for giving me the opportunity to appear before you. May I urge your full cooperation toward the enactment of the "Veterinary Medical Education Facilities Construction Act of 1965".

Mr. ANDREWS. A letter from Dean C. A. Brandly, University of Illinois, College of Veterinary Medicine, dated April 13, 1966.
(The letter referred to follows:)

UNIVERSITY OF ILLINOIS,
COLLEGE OF VETERINARY MEDICINE,
OFFICE OF THE DEAN,
Urbana, Ill., April 13, 1966.

Congressman JOHN JARMAN,
Chairman, Subcommittee on Public Health and Welfare,
Committee on Interstate and Foreign Commerce,
Rayburn House Office Building,
Washington, D.C.:

I write to provide you facts, some of which you may not be aware of.

There is great urgency, on behalf of the welfare of all living beings, that federal support be provided for veterinary medical educational facilities. This profession has first and final accountability for maximal health of a vast multitude of animal species. If veterinary medicine is to meet this basic charge, it cannot be denied the material support that will permit it to properly educate the greatly increased numbers of veterinarians required to meet the burgeoning demands on it.

Obviously, the nation's 18 colleges of veterinary medicine cannot carry out their heavy obligations to the general welfare without substantial federal matching support to the states for new educational facilities. Doubling of present veterinary medical enrollments during the decade ahead is a minimal requirement.

We have been informed that hearings on bill H.R. 490 sponsored by Congressman Leggett together with fourteen companion bills, will be held on April 20.

It is difficult for my fellow educators and me to believe that veterinary medicine was, by design, left out of the group of health professions (medicine, osteopathy, public health, nursing, optometry, podiatry) covered by the 1963 Health Professions Educational Facilities and Student Loans Act, and, of subsequent supplementary legislation. All who have even an elementary awareness of the facts of today's existence must recognize that man cannot enjoy maximal health and well-being if the myriad of other useful members of the animal kingdom upon which he must rely are disease-ridden. Man's age old dependence on animals for food, fiber, medicinal products, economic welfare, recreation and, to an increasing degree, mental well-being are no less today than ever before.

It is impossible in this statement to cite the virtually limitless benefits which we human beings derive from use of and contact with the many indispensable species of animals. In times of armed conflict, the veterinary services of our Armed Forces are responsible for inspection for wholesomeness of all foods not only at procurement but at issue as well for sanitation of food storage facilities, kitchens and messes. The military veterinary services are accountable for the health of sentry dogs, which are serving an ever greater role. They were responsible for the first astronauts—mice, monkeys, dogs, chimps. The zoonotic diseases, e.g., tuberculosis, plague, brucellosis, trichinosis, some forms of malaria and some 100 others, require the unique knowledge and competence of the veterinarian if they are to be identified and dealt with most effectively, either during military operation or in normal civilian life.

Veterinary medicine has demonstrated its capability for effective action in the large spectrum of human health endeavor and welfare. It has established its key role toward improving the health and well being of the whole animal kingdom, including man. *It is, therefore, only fair to ask whether this ancient and noble profession which is bringing new and invaluable knowledge and benefits to us and our animals can further be denied support for educating the greatly increased numbers of veterinarians which our country and the world are calling for.* The legislation proposed by H.R. 490 and its counterparts obviously is "remedial," not new in nature and will correct an inequity of opportunity for one of the major health professions. Such un-American discrimination must not continue to prevail.

C. A. BRANDLY, *Dean.*

Mr. ANDREWS. A statement by Dr. Mark W. Allam, dean of the School of Veterinary Medicine, University of Pennsylvania.
(The statement referred to follows:)

STATEMENT OF DR. MARK W. ALLAM, DEAN, THE SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA.

The evolution of veterinary medical education closely parallels that of human medicine. In the mid nineteenth century, there was the stage of the private "diploma mill". We have witnessed, too, the era in which the primary aim of education was merely to train students to practice veterinary medicine. During our growth as a profession, we have profited considerably from lessons learned earlier in medical education; we are now at the point where veterinary medical education can make its own contributions to the whole of medical science.

Of all the medical sciences none has more diverse obligations than veterinary medicine. These range from a direct concern for the general welfare of animals to participation in the program of space medicine and include treatment and control of disease in species ranging from wild animals to the commonly employed laboratory animal. The agricultural economy and nutritive plane of this nation and the world depend in a large measure upon research, service

and educational activities of the veterinary profession. Science has not altered man's dependence upon the food animal. The geography of hunger in a rapidly expanding world population is still largely determined by the numbers, health and efficiency of domestic animals. The changing pattern of agriculture with concentration of larger numbers of farm animals in smaller areas poses a serious challenge to the veterinarian, especially in the fields of preventive medicine and control of the zoonoses. The large number of pet animals in urbane areas poses similar problems.

If the veterinary medical profession is to meet its responsibilities for the future, then more young men and women must have the opportunity to study veterinary medicine. This can only be accomplished by greatly expanding present educational facilities, the creation of new schools and the opportunity to provide scholarship aid to the worthy, needy veterinary student.

Mr. ANDREWS. And, Mr. Chairman, in conclusion let me again thank you for giving us this hearing. There is a tremendous amount of interest in this bill. No question but that there is a shortage of veterinarians and that shortage will grow. It looks like the veterinarians have been on the bottom of the totem pole in the field of Federal aid to education. A week seldom passes when I don't get a letter from some Member of Congress asking that I try to help get some student into a veterinary school at Auburn and the dean of our veterinary school, Dr. Green, is here today and will testify.

My bill simply provides—and these other bills introduced by our colleagues, simply provide that there will be some Federal assistance to veterinary schools, and the bills make possible the construction of new veterinary schools; 66 $\frac{2}{3}$ percent is the greatest amount of Federal grant possible. In many cases where it is construction of additional facilities at existing schools the grant is 50 percent. There is a provision made for loans to veterinary students not to exceed \$2,000 a year to be repayable over a period of 10 years. There is a terrific demand for veterinarians in the country today and that shortage will continue almost to the point of no return in the 1980's. I certainly hope that this committee will look into these bills carefully and come up with some kind of a bill that will help a great profession, a profession that up until this time has received very, very little consideration on the part of the Federal Government. That is my statement, Mr. Chairman.

Mr. JARMAN. Mr. Andrews, we appreciate your comprehensive statement on this subject. The additional statements to which you refer will be accepted for the record unless there is objection.

Mr. JARMAN. Mr. Mackay?

Mr. MACKAY. As a native of Alabama and a resident of Georgia, I am very proud to see that Alabama and Georgia are leading the Nation in this issue. Because of my high regards for you, I am pleased to cosponsor this bill that you have introduced and hope that we can get action in this Congress because I represent the only all-urban district in the Southeast. This is not a rural problem.

Mr. ANDREWS. You need meat inspectors.

Mr. MACKAY. The provision of veterinary medical training is a national problem. This profession affects every citizen. One of our leaders from my district is here today.

The doctor of veterinary medicine is a very important person in the life of every family in my district, and I appreciate your statement. I think you are right and I appreciate your being here.

Mr. ANDREWS. Thank you.

Mr. JARMAN. Mr. Springer?

Mr. SPRINGER. May I say to my distinguished colleague from Alabama that this shows a statement of considerable concern and you certainly have gone into the facts. Dean Brandly talked with me on the telephone and was very sorry he could not be here to present his own statement, as dean of the School of Veterinary Medicine of the University of Illinois.

I am happy that such a distinguished member of the great Committee on Appropriations has seen fit to come here and testify. If we get this bill authorized, will the distinguished gentleman from Alabama help us get the appropriations?

Mr. ANDREWS. Well, I will say to the distinguished gentleman from Illinois, you do your part and I will do mine.

Mr. SPRINGER. I think the gentleman's words is good and sufficient insofar as I am concerned.

Mr. ANDREWS. I might say that our colleague from Rhode Island, Congressman John Fogarty, is very much interested in these bills. I think he has introduced one and will appear here today as a witness.

As you know, he is the chairman of the subcommittee that handles funds for these projects.

Mr. SPRINGER. I am glad to hear that. I did not realize until about 3 years ago the far-reaching aspects of veterinary medicine. I happen to have one of the larger airbases in the world in my district, Chanute Field at Rantoul. We do have this inspection problem and under Army regulations this requires a doctor of veterinary medicine. Most of these positions require that kind of qualification to fill.

So may I say that the armed services are taking a serious view of veterinarians at the present time. This aspect of it is far beyond the mere question of farm animals, and I do have one of the big agricultural areas in my district, some seven counties that have nothing but farms in them. But, for the first time I got a picture of how far reaching the whole question of veterinary medicine is.

May I say that the gentleman has made a most lucid presentation of his subject today.

Mr. ANDREWS. Thank you, sir.

Mr. SPRINGER. Which this committee appreciates.

Mr. JARMAN. Mr. Nelsen?

Mr. NELSEN. Thank you, Mr. Chairman.

I want to thank the gentleman for his testimony and point out that several of the authors of similar bills come from the Midwest area. Mr. Andrews, from North Dakota; Mr. Fraser and I, and probably several others.

The situation that we face in the agricultural areas today is a serious one as far as the supply of veterinarians is concerned. A circumstance that I would like to relate goes back a number of years—quite a number of years—in Minnesota, where we found that our young men who wanted to study veterinary medicine were being denied entrance into the various out-of-State veterinary medicine schools. We had none in Minnesota at that time. Several of us in

the State legislature introduced bills to establish a School of Veterinary Medicine at the University of Minnesota. We were successfully in our efforts, and many of the same boys who had come to us with their problems then entered the school and became veterinarians to several rural areas.

It seems to me that we now face a situation that has Federal money being devoted to some areas of professional life to the disadvantage of others. In this case it seems to me the school of veterinary medicine is one that rural America needs, and I am pleading the case for our own school of veterinary medicine. I hope that there can be some type of bill passed in this session of Congress to help our schools of veterinary medicine.

Dr. Thorp is the dean of our School of Veterinary Medicine at the University of Minnesota and will testify here later on. He has wide experience in this field, but I want to make my own comments at this time since I do have two committee assignments and I want to be sure that I get my little plug in for what I think is important to the rural economy of America. I am a practical farmer myself, and I know from experience that our veterinarians are doing a very successful job.

So, thank you again for your statement, and I hope we can pass a bill in this session of Congress.

Mr. ANDREWS. Thank you, Mr. Nelsen.

Mr. JARMAN. Mr. Carter?

Mr. CARTER. I want to compliment the gentleman on his presentation and certainly I am in agreement with purposes of this bill. Kentucky does not have a school for veterinary medicine. It sends its students either to Auburn or to Ohio University, I believe.

Mr. ANDREWS. We have had some fine men down at Auburn from Kentucky.

Mr. CARTER. Thank you, sir. Veterinarians are certainly in short supply. I am happy to support the bill.

I notice that you have loans for veterinary students up to \$2,000 per year. There is one thing which I think should be added in fairness to your profession. That is, according to a bill passed in the previous session of Congress, grants were made to impoverished prospective medical students and students of dentistry, students of optometry and podiatry. To me, I see no reason why your profession should be discriminated against.

Mr. ANDREWS. I am not a veterinarian, Congressman. But I am very much interested in it.

Mr. CARTER. I know you are and it certainly would be no stigma to your profession to be a member of that profession.

Mr. ANDREWS. I sometimes wish I were.

Mr. CARTER. Anyway, I feel that if we give grants to medical students, students of optometry and podiatry, why should we not do the same for the profession of veterinary medicine? I think that that should be included. Thank you, sir.

Mr. ANDREWS. Thank you.

Mr. Chairman, may I tell you a story about a veterinarian, off the record.

Mr. JARMAN. Off the record.

(Discussion off the record.)

Mr. JARMAN. Our next witness will be our colleague from Florida, Mr. Claude Pepper.

**STATEMENT OF HON. CLAUDE PEPPER, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF FLORIDA**

Mr. PEPPER. Mr. Chairman, off the record.

(Discussion off the record.)

Mr. PEPPER. Mr. Chairman, I appreciate very much this opportunity to testify today in support of my bill, H.R. 6332, which would authorize a 3-year program of grants for the construction of veterinary medical education facilities and establish a loan program for students of veterinary medicine. I introduced this bill because I am convinced there is a crucial gap in our existing health manpower programs, and I am gratified to find that so many of my colleagues, including one of the members of this committee, are supporting similar measures aimed at solving this important public health problem. I certainly hope that during the course of these hearings we will be able to develop a record that will satisfy both the committee and the Congress of the very real and urgent need for this legislation.

As you know, Mr. Chairman, I have long been interested in health legislation and have appeared before the committee numerous times to testify in behalf of health manpower and facilities bills. Your committee has established an outstanding and well-earned reputation for leadership and judgment in this area. Many of the bills painstakingly worked out here such as the Health Professions Educational Assistance Act and the 1965 amendments to that act and the Nurse Training Act of 1964 are having a profound effect upon the quantity and quality of the educational programs in the health professions. I know that the committee is well aware of the need for health personnel of all types and levels of training. With regard to professional personnel, the committee did not hesitate to extend the Health Professions Educational Assistance Act to cover loans to students of optometry, pharmacy, and podiatry when it became evident that serious shortages existed in these fields which might be alleviated, at least in part, by the student loan program. I am here today to urge that the Health Professions Educational Assistance Act again be extended, this time to include schools and students of veterinary medicine because of the pressing need for veterinarians as part of the Nation's public health team.

Mr. Chairman, a good umbrella has many ribs—probably 10 or more. It seems to me our health manpower program should be constructed in much the same way. In order to support the outer covering, or in this case to meet the country's total health manpower needs, we need a program to train physicians, another to train dentists, another to train nurses, another for pharmacists, yet another for optometrists, and so forth. We can well imagine the sorry spectacle an umbrella with only two or three ribs would make and its ineffectiveness in keeping off the rain. Just so, a health manpower program that is not carefully balanced will not work. At this time

our existing program is like an otherwise fine umbrella with one missing or broken rib. That rib is aid to veterinary medical education. I urge that we set about supplying that rib without further delay.

Figures compiled by the American Veterinary Medical Association show that we are faced with a serious and growing manpower deficit in this profession. In fact, it is estimated that by 1980 we will be short at least 7,000 to 10,000 veterinarians. When we consider that we depend upon veterinarians not only for the care of pets and livestock but also to insure us an adequate supply of safe and nutritious meat and dairy products and to protect us against the more than 100 animal diseases which are transmissible to man, we begin to realize their importance. If only from the point of view of economics, it makes sense to encourage the training of veterinarians necessary to maintain our more than \$36 billion livestock industry. We have been very fortunate in this country in being able to eradicate hoof-and-mouth disease and to control bovine tuberculosis and brucellosis. These and other successes, however, were bought at the cost of great effort and sacrifice and could be undone without constant vigilance. Needless to say, an adequate supply of trained manpower is essential for this purpose.

While this country is unsurpassed in the quality of its veterinary medicine, it is also true that unconquered animal diseases still threaten human life and represent a tremendous economic loss to the Nation—an estimated \$3 billion annually. We cannot afford such a loss now and will be even less able to tolerate it in the coming decades as our population grows and increases its demand for meat and livestock products.

Veterinarians are also needed for medical research, for military service to protect our fighting men from unsanitary food, for inspection of the large numbers of animals brought into the United States each year, for civil defense programs, and for many other public health activities. Those of us who are interested in European history will recall accounts of the terrible losses and human suffering and political unrest caused by cattle plagues of the 18th century. Moreover, we have only to look around us to see the malnutrition and disease which are rampant in many of the underdeveloped countries of the world today and which are directly related to the lack of veterinary medical services.

In his recent message to the Congress on International Education and Health the President pointed to the need to control animal diseases and stated that three-fourths of the rural population in many developing countries often suffer from debilitating diseases that originate in animals. While he did not specifically name veterinarians among the health specialists to be included in the proposed new international corps in the Public Health Service, I am sure President Johnson intended that they be included, and I can think of no more important way in which we might contribute to the physical and economic health of our friends around the world.

Mr. Chairman, I do not think anyone here could argue with the importance of veterinarians in protecting and promoting public health. I have also presented figures to show that there is a growing shortage of trained personnel. Now, if I may, I'd like to say a

few words about the needs of our schools and students of veterinary medicine to justify Federal legislation on their behalf.

First of all, operating expenses for veterinary schools have been rising rapidly. There was a 400-percent increase in these costs between the 1950-51 academic year and the 1962-63 academic year. While there has been a large increase in Federal grants to veterinary medical schools over this period, virtually all of the funds have been for research and postdoctoral training. In the meantime State appropriations for these schools have fallen markedly. As a result, funds for the replacement or improvement of existing facilities and for the construction of new schools are badly needed. A recent report of the American Veterinary Medical Association indicates that funds needed for construction at the 18 veterinary schools for the next decade are estimated at \$145 million.

Like other professional education, veterinary medicine is long and costly. Four years of professional training are required, preceded by at least 2 and usually 3 years of college training. In other words, veterinary medicine is similar to dentistry and closely approaches medicine in length of training. And it is expensive—especially for students from the 33 States which do not have their own schools of veterinary medicine. Many of the States, including my own, have entered into regional agreements under which participating schools of veterinary medicine are reimbursed for the cost of training out-of-State students. This system is not going to meet our manpower needs of the future, however, nor does it provide sufficient encouragement to students who need direct financial assistance.

The State veterinary medical associations and the auxiliary of the American Veterinary Medical Association, as well as the veterinary schools themselves, offer student loan programs. It is clear from the figures compiled by the AVMA, however, that the individual loans are generally quite small due to the restricted funds available. Furthermore, since veterinary students tend to come from rural families, many of which have limited financial resources, it is especially important that student loan funds be provided. The American Veterinary Medical Association urges that a Federal student loan program be authorized so that all qualified applicants can be assured adequate funds to complete their education. Finally, in further support of this point I would remind the committee that in 1961 the Senate Committee on Government Operations in its print, "Veterinary Medical Science and Human Health," recommended that scholarships and fellowships be provided for veterinary medicine as for other branches of medicine.

Mr. Chairman, in the introduction to the committee print, which I just mentioned, our beloved Vice President, then the chairman of the Subcommittee on Reorganization and International Organizations of the Senate Government Operations Committee, wrote:

Paradoxically, a layman, at first glance, might consider this report as "outside the scope of his own health."

The layman might think of veterinary medicine "as a matter of interest only to the farmer," for example, or "only to the owner of a household pet."

Actually, veterinary medical science is part and parcel of biology and medical science as a whole. The history of the progress of man's battle against disease is rich with illustrations of that fact.

I feel sure that the members of this committee are equally appreciative of the importance of veterinary medicine in human public health. I hope, therefore, that as a result of these hearings legislation will soon be enacted to provide much-needed assistance to this important profession. In closing, may I remind you once again of the health professions umbrella. Our umbrella will not be sound and rain-worthy until all the ribs are in place. I hope that 1966 will see the addition of the vital rib for veterinary medical education.

Mr. JARMAN. Are there any questions? If not, our next witness is our colleague from Oklahoma, Mr. Tom Steed.

**STATEMENT OF HON. TOM STEED, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF OKLAHOMA**

Mr. STEED. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, my interest in this particular subject stems largely from the fact that Oklahoma State University, which has one of the great veterinary medical schools of the Nation, is situated in my district. I have had many opportunities to be on the campus and to get to know Dean Holm and the activities of the school, and became somewhat familiar with this subject. And with that firsthand introduction to it, I have become very strongly of the conviction that this is a vital and important piece of legislation and I certainly hope that you will find it possible to work out a suitable bill and report it.

I do not want to burden the committee with repetition of the material that you have so well said by others, but there are two points that I think I would like to make.

I have been in touch with some of the departmental people and some people down at the Bureau of the Budget in regard to this legislation within the last few days and I am very encouraged by the reaction I found there. And I am sure that activities now underway will make it possible for the position of these agencies to be clarified and available to you before you are finished with the consideration of this matter. I think that since some interest has been voiced in funding this program once it is authorized, as a member of the Appropriations Committee, I think I can give the committee some assurance that that part of the program too will be well seen to. It just so happened that the subcommittee of which I am chairman some people down at the Bureau of the Budget in regard to this handles the budget for the Budget bureau, and we find it very convenient to discuss matters of this sort in a friendly way with them.

We are willing to give you all the assistance we can.

The other point is that I would like to commend my friend and the dean of our school, Dr. Glenn C. Holm, to this committee. I am sure that those who are familiar with this program within this country will agree that he is one of the outstanding authorities in our country, and it is a pleasure for me to be able to appear with him here today. I know you will find his remarks of special interest because of his large experience and standing in this field.

I believe that the point that has been made here that this not an agricultural bill, per se, is probably the most important thing. This

affects the life of every American. It affects the health of all of our people. This is a field that has been considerably neglected, and the situation will become even more serious than it is now if something is not done to improve it.

Since it is a national problem, since there is so much of the country presently unable to make a contribution to the solution of it in terms of training more men and women to serve in this field, I think it is very proper that Federal action be taken, and I recommend, in the strongest terms, favorable consideration of the bill by this committee.

Mr. JARMAN. We appreciate our colleague being with us this morning. Are there any questions?

Mr. SPRINGER. Mr. Chairman, I wish to extend my congratulations to this distinguished gentleman of the Appropriations Committee and a very powerful member of that committee, that he has taken these initial steps to assist in working out the budgetary and appropriation problem, because with the recommendations that are on file, if we can get those straightened out, I think the gentlemen will be in pretty fair shape, as far as I am concerned. But we are up against a bit of a problem until we can have some kind of assurance that there will be at least a reconsideration of the entire problem. And I want to thank the gentleman for taking those steps on his own initiative and they are extremely helpful in imparting that knowledge to this committee, because this would be in friendly hands from the appropriations standpoint if we were to get it authorized.

Mr. STEED. Thank you. When we were fortunate to have the subcommittee hearings, I realized that the clearance of the Department and reports and budget were important, and I thought I may be able to help and I believe we are going to get that available to you before you are finished with your deliberations.

Mr. SPRINGER. I thank the gentleman.

Mr. STEED. I am more than happy to do it.

Mr. NELSEN. No questions, but just to say thank you.

Mr. CARTER. No questions.

Mr. JARMAN. At this point we will hear from Hon. Jed Johnson of Oklahoma.

STATEMENT OF HON. JED JOHNSON, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OKLAHOMA

Mr. JOHNSON. Mr. Chairman, I appear here today to urge favorable action on the legislation under consideration, which is of vital importance to the welfare of the district I have the honor to represent in Congress.

At the outset, let me thank the committee for holding these hearings. In view of the wide jurisdiction of this great committee and the many important bills pending on your calendar, I am sure it was very difficult for my good friends, the Honorable Harley Staggers, chairman of the committee, and the chairman of the subcommittee, the Honorable John Jarman, my distinguished colleagues from Oklahoma, to find time to conduct these hearings.

Expert witnesses are here to explain the importance of this legislation and I shall not take the time of the committee to explain the bill. I just want to say that in my judgment, we have neglected the field of veterinary medicine too long. Expansion of veterinary medicine facilities is vitally important to public health and to the livestock industry. In passing, I want to congratulate and thank the Committee on Interstate and Foreign Commerce for the important constructive legislation it has written to promote public health. We have, indeed, made great progress in this field, thanks to the hard work and foresight of members of this great committee.

My bill, H.R. 5574, would authorize a 3-year program of grants for medical education facilities. The bill provides for a 3-year construction program, with the States contributing 50 percent in most cases.

Federal assistance is needed to get the veterinarians we must have. Our existing veterinary colleges, with their limited facilities, are unable to train sufficient numbers of qualified young men and women to meet present demands in veterinary medicine, not to mention the needs of the near future.

Authorities in the field of veterinary medicine estimate that this country will need 47,000 veterinarians by 1980, more than double the present number. With only 18 accredited veterinary medicine schools, including our own great Oklahoma State University, the shortage already is becoming severe.

A report from the OSU school reveals that of the 156 applicants considered in 1965 only 48 were admitted last fall. The other 108 applicants were eliminated because of a shortage of training facilities.

We are extremely fortunate to have here today Dy. Glenn C. Holm, dean of the College of Veterinary Medicine of Oklahoma State University. Doctor Holm knows at firsthand the problems facing the field of veterinary medicine of today, and I am sure his report will serve to enlighten these hearings.

Mr. JARMAN. Thank you, Mr. Johnson. Our next witness will be the Honorable John E. Fogarty, of Rhode Island.

STATEMENT OF HON. JOHN E. FOGARTY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF RHODE ISLAND

I am pleased to have this opportunity to appear before you today to speak for the legislation proposed in my bill H.R. 11205 which you are now considering.

In my 25 years in the Congress, I have worked long and hard for legislation in all of the health areas. One of those areas, which has always appeared of paramount importance to me, is that of health manpower.

Since 1956, when I foresaw our future urgent need for more health personnel to bring a growing body of research accomplishments to a burgeoning population which would demand better standards of health services, I have urged more private and Government efforts to expand our health manpower base.

It has been a great satisfaction to help enact measures to provide Federal support for programs which strive to close the gap between the numbers of health personnel we have and the numbers needed for the future.

In that respect, we have succeeded in providing support for training physicians, osteopaths, dentists, nurses, ophthalmologists, optometrists, and pharmacists through school-construction and improvement grants, student loan programs and scholarship funds. We have not done enough there, perhaps, but we have made a beginning.

But there is one professional medical group—as vitally important to our health team as any of the others and equally plagued by manpower shortages—which we have, until now, largely overlooked. I speak of the veterinary profession and our veterinary students.

H.R. 11205 seeks to remedy our regrettable oversight by providing Federal assistance for the construction of teaching facilities for veterinary medical personnel and establishing funds for loans to students of veterinary medicine.

When I introduced this bill in the House last September, I said: "With the public health team, the stakes are too high to warrant anything but full support of all its members. It is time for us to acknowledge the vital role of today's veterinarian and to act swiftly to meet his needs."

Even at that time, it had been more than 2 years since the pressing manpower needs of the veterinary profession were detailed to the Congress during hearings on the "Health Professions Educational Assistance Act of 1963." Because they were reluctant to possibly further delay that act's passage by adding to its already lengthy provisions, and because they felt that their needs might be served better by a separate piece of legislation, the veterinarians decided, through their American Veterinary Medical Association, not to ask to be included at that time.

In the press of legislative business in two succeeding congressional sessions, their problems were again bypassed.

So, today, nearly 3 years since it first came to our attention, and more than half a year after I introduced H.R. 11205 and asked for swift action, the veterinary manpower problem grows more acute, and we have yet to do anything about it.

Why has the Congress neglected so long to turn its attention in this direction?

Perhaps it is because many of our colleagues in Congress—lacking thorough knowledge of the veterinarians' wide-ranging activities and their importance to the public health team—tend to regard them only as animal doctors. Such a parochial viewpoint disregards the fact that man is also an animal whose health problems are closely entwined with those of all other animals. I think that it is time that we improved that perspective.

It is true that about 14,000 veterinarians hold to the traditional function of caring for domestic and zoo animals and for our household pets. But, commonplace as these services might seem, they have direct bearing on human health, when we consider them in the proper sense.

For example: Inoculations of farm animals—swine, cattle, sheep, chickens—by a veterinarian do not appear to have public health significance until you think that such lifesaving, disease-controlling efforts make possible an ever-larger and better quality supply of food for our populace.

Or, consider the veterinarian's role in caring for pets. What has that to do with public health? It had a great deal to do with the health and

welfare of humans when you think of the importance of pets to the emotional stability of children or lonely persons, to the security of blind people, or to the protection of households. Thought of that way, the routine work of practicing veterinarians appears in a different light.

The public health is further served by 1,400 veterinarians who make up the faculties and staffs of the country's 18 schools of veterinary medicine which turn out as many high-quality graduates as their limited capacities will allow.

But, today's veterinarians engage also in a great number of other public health activities—31 specialties in all, most of which were unknown to the profession 20 years ago. Some 6,600, or about 30 percent of our veterinarians, are in these fields.

They work as meat inspectors, assuring that the prepared raw meat products that we buy for our tables are wholesome and safe for consumption.

They are concerned with the health inspection of imported animals; with developing and testing of drugs and biologics for both human and animal use; with the care of experimental animals used in medical research; with animal studies of air pollution, radiation, space travel, and bacteriological warfare effects; and with bioengineering.

Most people do not know that many medical advances have been based on veterinary discoveries. The observation that insects can transmit diseases between animals and between animals and men led to the successful conquest of yellow fever and malaria. The development of the drug used against human hookworm; the development of a potent anticoagulant drug which has helped save many coronary victims; the perfection of a method of anesthesia are only a few advances made possible because of basic veterinary medical accomplishments.

Similar efforts to control animal and human diseases continue. Today, veterinarians are working at some 25 major research centers and smaller laboratories with other specialists. Many grants from the Public Health Service and other Federal agencies support veterinary research in cancer, heart disease, gastric ulcers, and other chronic diseases striving to improve our understanding of human pathology.

In the era of modern medicine, veterinary science has come of age in realizing and developing its great and varied potential. Certainly, as specialists in animal health—inseparably and fundamentally linked with human health—the veterinarians are essential to the life of any modern country.

Yet, in spite of the profession's accomplishments in veterinary education, animal care, and the other invaluable specialties, veterinarians have barely begun the work that they must do.

Animal disease still causes a staggering annual loss of \$2.7 billion in this—and I quote the Secretary of Agriculture—"safest country in the world for raising livestock and poultry." It is estimated that disease claims one of every five of our farm animals before it can reach the food market.

We are still learning of human health problems caused by nutrition deficiencies and harmful foreign substances in our food animals.

We know that there are many yet-undiscovered causes of animal and animal-man shared diseases which we must find and destroy or control.

If we could wipe out animal disease completely, we could feed an additional 100 million people in the United States without adding a single head to the current livestock population.

Serious as the animal health problems are in the United States, they diminish when compared with the plight of some other countries of the world. Millions of people in less advanced nations are always hungry, and millions actually starve to death because animal diseases cause production losses of meat, milk, and eggs, or make millions of acres of otherwise excellent land unusable.

In such countries, human survival rates are tragically low because food lacks adequate nutrition or is infected with harmful diseases. General health is poor and life expectancies are sharply limited, compared with those of people in more advanced countries. Animal-borne diseases like cholera, bubonic plague, typhus, malaria, rinderpest, and hoof and mouth disease—which have devastated mass populations in epidemics in the past—lurk nearby as constant threats to the people's lives.

Wiping out animal diseases alone could improve the health, economy, and political stability of the whole world.

But apart from such humanitarian considerations and desirable long-range goals, we are concerned here today with our urgent requirements in the United States. Now, when we have veterinarians in so many research and preventive medicine areas, we have only 22,000 of them. Moreover, the continued growth of population, incomes, livestock products, and small-animal numbers make the outlook for the profession one of rapid change and increasing complexity. It is estimated that we will have to more than double our veterinarian population by 1980.

That means that we must train nearly 1,500 new veterinarians each year for the next 15 years. The American Veterinary Medical Association estimates that, with present and planned school facilities, our maximum output of veterinarians between 1975 and 1980 will be only 242 each year. That is less than one-seventh of our estimated requirements. And, it doesn't even take into account the attrition the profession will experience as the result of disability, aging, and death of its members.

Clearly, the present rate of graduation from schools of veterinary medicine must be substantially increased.

The American Veterinary Medical Association has stated its needs in the starkest terms:

Stronger and more effective efforts than in the past will be needed to enlarge and expand veterinary education facilities in order to increase the number of veterinary medical graduates and to encourage veterinarians to avail themselves of continuing education so as to increase their efficiency and achieve a higher output of services per veterinarian.

H.R. 11205, which I speak for today, is designed to help meet this need.

In its first part, it would authorize appropriation of \$2 million for the fiscal year beginning July 1, 1966, and for each of the 2 succeeding fiscal years, for grants to assist in replacing or rehabilitating existing teaching facilities for the training of veterinary medical personnel; and \$15 million for the fiscal year beginning July 1966, and for each

of the 2 succeeding fiscal years, for grants to assist in constructing new or expanded teaching facilities for training veterinary medical personnel.

In a project for a new school, or new facilities in an existing school, where such facilities are of particular importance in providing a major expansion of training capacity, the amount granted may not exceed 66 $\frac{2}{3}$ percent of the construction cost. In any other grant, such amount may not exceed 50 percent of the necessary construction cost.

An additional sum of not more than \$25,000 may be granted for the cost of preparing initial plans.

Applicants for these grants must be accredited, or other nonprofit, schools of veterinary medicine or, if a new school, there must be reasonable assurance that the school will meet accreditation standards.

The bill also outlines certain other restrictions and considerations in the awarding of grants under this part.

The second part of the bill would authorize the Secretary of Health, Education, and Welfare, to enter into agreements with accredited public or other nonprofit schools of veterinary medicine for establishing and operating student loan funds.

Each school receiving Federal funds for this purpose will be required to allocate an additional amount from other sources equal to not more than one-ninth of the amount deposited by the Federal Government.

Loans, not to exceed \$2,000 per student for any academic year, may be made only to students needing such funds to pursue full-time study courses at the school, leading to degrees of doctor of veterinary medicine.

According to the provisions of the bill a loan shall be repayable in equal or graduated installments over the 10-year period which begins 3 years after a student ceases to pursue a full-time course at a school of veterinary medicine.

To establish these loan funds, the bill further provides that the Secretary of Health, Education, and Welfare, be authorized \$510,000 for the fiscal year ending June 30, 1966; \$1,020,000 for the fiscal year ending June 30, 1967; \$1,540,000 for the fiscal year ending June 30, 1968. In addition, such sums are provided for each of the 3 ensuing fiscal years as may be necessary to enable students who have received loans for any academic year ending before July 1, 1968, to continue their educations.

In your deliberations on this legislation you cannot help but conclude, as I have, that veterinarians—as doctors of animals, as educators of veterinary medicine, as meat inspectors, nutritionists, research scientists, as specialists in any of the many activities they pursue—are vitally important to the public health team.

You will become convinced, I am sure, that the increased demands being made for veterinary services in all of our efforts for improving our country's health standards make drastic, immediate increases in their numbers imperative.

I know that you will agree with me that in view of the apparent inability of existing or planned training facilities to provide the number of veterinarians we need, we must provide this profession with the same opportunities which we have already provided for the other professions in the health fraternity.

Finally, I believe that you will agree that it is time to act swiftly to prevent this long-neglected manpower shortage from becoming any worse, and to act now to improve the veterinary manpower base for the future.

I urge you to report H.R. 11205 out favorably so that it may be considered by the House as a whole.

Mr. JARMAN. Thank you, Mr. Fogarty. We will now hear our colleague from California, the Honorable Robert L. Leggett.

STATEMENT OF HON. ROBERT L. LEGGETT, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. LEGGETT. Thank you very much, Mr. Chairman, and gentlemen.

I am here with the dean of our veterinary college, Bill Pritchard, from the University of California at Davis. And I have a prepared statement that I will submit, and I do not plan to read the whole thing.

I also have a statement prepared by Dean Pritchard with respect to a statistical analysis of veterinary doctor shortages in the West. I do not have the requisite 50 copies, but I do have 3 copies which I would like to submit for the record.

I also have a letter from the chancellor from the University of California at Davis, supporting the bill which I have coauthored, H.R. 490, and I would like to submit that for the record.

And I also have a statement from C. J. Tupper, dean, school of medicine, at Davis, and I submit that at this time.

Mr. JARMAN. Without objection, they will be received for the record.

(The statement of Mr. Leggett, and attachments referred to follow:)

STATEMENT OF HON. ROBERT L. LEGGETT, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF CALIFORNIA

Mr. Chairman, I would like to speak briefly in support of H.R. 490 "The Veterinary Medical Educational Facilities Construction Act of 1965."

We have heard a great deal about the revolution in science and medicine that has occurred in the past two decades. We know about open-heart surgery, many of us have even seen this operation on public television. We are familiar with the wonder drugs such as penicillin and the tranquilizers. We are aware that polio, once one of man's most dreaded diseases, nearly has been eliminated. Yes, we all know very much about medical science and the medical specialists who minister to our health needs.

Today, however, I want to talk about another kind of medical specialists, a specialist who is every bit as important to your health and welfare as the glamorous surgeons, psychiatrists and internists, but one whose exploits and contributions are largely unsung and well known only to the world of science. He is the *Doctor of Veterinary Medicine*. He is the medical specialist trained and skilled in diseases of all kinds of animals except man—the physician who devotes his medical skill and compassion to the alleviation of pain, suffering and ill health in the host of animals that serve man and contribute to his health and welfare.

The modern veterinarian makes vitally important and absolutely essential contributions to our society. No other biological or medical specialist is equipped to provide these unique services. The health and welfare of the people of this nation and the world depend to a very large extent upon the quality of veterinary medical services available to us.

The veterinarian is an important protector of that portion of our food supply that comes from animals. The American housewife is provided with the most abundant, wholesome and economical supply of meat, milk and eggs in the world.

Even today, however, the housewife's food bill is needlessly over-burdened at the rate of \$3,000,000,000 per year. This represents the current U.S. loss from animals diseases which, of course, must be passed on to the consumer. Adequate veterinary medical services would result in relieving the consumer of this senseless recurring waste at a small fraction of its cost.

An important reason why the U.S. is one of the world's most healthy nations is because veterinarians have control or limited a host of animal diseases that also are capable of infecting people, i.e., zoonoses. Over much of the world, some of the greatest cripples and disablers of people are the diseases acquired from animals. We have been spared these ravages because our highly effective veterinary medical profession has controlled or eliminated most of this nation's major zoonotic diseases.

All is not well, however, in regard to the zoonoses. Modern transportation is capable of bringing diseases to our country in a few hours and probably will unless we increase our vigilance. Our almost insatiable desire for preprepared foods has made many of the older methods of controlling food-borne diseases ineffective. The recent botulism and Salmonella outbreaks are warnings that must be heeded by improving our zoonotic disease control program. We cannot wait for more Salmonella epidemics, such as the one that brought the city of Riverside, California, to its knees not long ago, before we take corrective measures.

Veterinary medicine is currently making key contributions to our knowledge of human health. This is due to the fact that man and animals share many of the same diseases. Hence, a better understanding of a disease or disease process in an animal often leads to a better understanding of the disease in people. A great deal of the knowledge necessary to conquer our current major disease problems, such as cancer, stroke and heart disease, is expected to come from research on counterparts of these diseases in animals, because of the limitations on conducting research directly on human beings.

Veterinarians are playing the key role in developing adequate health and care programs for the host of laboratory animals used in biological and medical research. We are aware of the deep concern of the public for these animals. Provision of adequate health care for laboratory animals will depend upon the eventual training of several thousand veterinarians in the specialty of laboratory animal medicine.

Veterinarians are badly needed for our nation's international development programs. In some areas of the world the chief limiting factor in development is the animal disease that reduces food production and debilitates the human population. In South America alone, according to the Pan American Sanitary Bureau, the control of livestock diseases would increase the supply of protein for human consumption by 25 percent. The world can ill-afford this loss.

There is today in this nation an acute shortage of veterinarians to carry out the functions that I have briefly outlined. This is indeed paradoxical, because thousands of exceedingly bright American boys and girls compete for a very limited number of openings in veterinary medical schools. In my own state of California 2810 young people wrote to the University of California School of Veterinary Medicine to inquire about a veterinary education last year. Out of this number 420 who had completed their pre-veterinary medicine and were qualified were permitted to apply. Only 80, however, could be admitted because of a lack of teaching facilities. Most of the rest will be permanently deprived of the opportunity to study veterinary medicine.

This lack of opportunity for veterinary medical education becomes highly significant in view of the critical shortage of veterinarians facing our state and the entire nation. The California Veterinary Medical Association has estimated that there is today a need for at least 300-500 additional veterinarians in the state. The Dean of the University of California School of Veterinary Medicine informs me that there will be at least 300 inquiries for veterinarians that will go unfilled after the fifty-one 1966 graduates of the School select positions.

At least one-half of these openings are in public health, research and teaching, and laboratory animal medical programs. Veterinarians are being sought by the space industry for bio-medical research, hundreds of medical research organizations and hospitals are seeking veterinarians to supervise the care and health of laboratory animals, national and international fish and marine biology research organizations are looking for veterinarians to play leading roles in their research programs. Most schools of medicine are looking for veterinarians for

teaching and research positions in order to bring the comparative medical approach to their curriculums.

The Peace Corps is looking for a large number of veterinarians for their programs. The Food and Agriculture Organization and the World Health Organization of the United Nations both need veterinarians. The U.S. State Department has a chronic problem of obtaining sufficient numbers of veterinarians for their program.

This demand for veterinarians reflects the tremendous change that has occurred in this profession over the past several decades. The veterinarian is looked to now as the medical specialist who deals with disease in all species of animals. He is in great demand because of his basic biological and medical competence.

Finally, there are only 18 schools of veterinary medicine serving the needs of the 50 states of this nation. There are only 3 in the entire 12-state Western Region. Veterinary medical education is truly a matter of national and regional concern. Like all medical education it is very expensive. Consequently the 17 states having veterinary medical schools should not be expected to bear the entire burden of providing the nation with veterinary medical educational programs.

I strongly urge you to favorably consider the legislation before you which will make federal funds available for the construction of veterinary medical educational facilities.

CALIFORNIA VETERINARY MEDICAL MANPOWER NEEDS

(Prepared by W. R. Pritchard, D.V.M., Dean, School of Veterinary Medicine, University of California, Davis)

DVM'S NEEDED IN CALIFORNIA

There is no good way of determining the number of veterinarians required to provide adequate veterinary medical services to the State. Two comprehensive studies that took into account supply and demand, as well as new developments in veterinary medicine, concluded that a ratio of one veterinarian to 5,700 people was a realistic basis upon which to calculate veterinary medical manpower needs. (1) (2) California's need for veterinarians calculated on the basis of one-DVM per 6,000 people is given in Table 1.

TABLE 1.—*D.V.M.'s needed in California*

Year	Population ¹	D.V.M.'s ²
1965.....	18.7	3,125
1970.....	21.7	3,622
1975.....	24.8	4,138
1980.....	28.1	4,689

¹ California State Department of Finance Publications—"California Population—1965," p. 7, and "Provisional Projections of California Areas and Counties to 1980," Feb. 15, 1963, p. 5.

² A ratio of 1 D.V.M. to 6,000 people was used for this calculation.

WHERE CALIFORNIA GETS ITS DVM'S

California has depended for many years upon other states to educate most of its veterinarians. Of the 1,946 DVM's currently residing in California, 536 or 27% were educated in California. There has been no significant increase in the number of DVM's licensed to practice in California during the last ten years in spite of a marked increase in population and an expanding demand for veterinarians. From 1956 to 1960 an average of 129 DVM's were licensed each year, while from 1961 to 1965 the average was 132 new licensees per year. (3) Furthermore, 534 of the 2,388 veterinarians licensed in California reside outside the state.

CURRENT SHORTAGE

It is universally agreed that there is an acute shortage of veterinarians in California and the nation. Estimates based upon current openings in California

for veterinarians estimate the current deficit to be at least 500 DVM's. Over 300 specific requests for veterinarians have been directed to the School of Veterinary Medicine at Davis this year. Only 51 DVM degrees will be awarded by the University of California in 1966.

PROJECTED INCREASE BASED ON PRESENT SOURCES OF SUPPLY

The projected increase in the number of veterinarians that might be expected to occur in California by 1980 is given in Table 2. These projections are based upon the following assumptions:

- (1) The present rate of immigration of veterinarians will continue.
 - (2) The present percentage of veterinarians (22%) who are licensed in California but reside outside the state will be maintained.
 - (3) The present ratio of veterinarians licensed in California to non-licensed veterinarians working in California will remain the same, i.e., 20:1.
 - (4) The number of graduates of the School of Veterinary Medicine at Davis would remain the same. (The School at UCD has already begun an expansion program.)
- Attrition is based upon a study of the age distribution of veterinarians. (4)

TABLE 2.—*Projected increase of D.V.M.'s in California, 1965-80.*

	New licensees	New non-licensees	Attrition	Net increase	Total increase
1966-70.....	515	16	216	315	315
1971-75.....	515	29	146	398	7
1976-80.....	515	21	232	304	1,017

PROJECTED INCREASE BASED UPON PLANNED EXPANSION AT DAVIS

Major expansion of the veterinary medical program at Davis currently is in progress. Eighty rather than the traditional 52 students were admitted in the fall of 1965. This increase was made possible by the projected availability of the new Veterinary Medical Teaching Hospital in 1967. The class size will be expanded to a planned capacity of 128 students in 1969 if the new multidiscipline teaching building currently planned but not funded is completed by that time. It also is contingent upon completion of the rest of the physical facilities prior to 1971. Table 3 reveals the additional veterinarians that will be supplied by the expanded veterinary medical program.

TABLE 3.—*Projected increase in D.V.M.'s in California based on present plans for expanding the School of Veterinary Medicine, University of California at Davis*

	Net increase ¹	Net expanded ² U.C.S. program	Total
1965-70.....	315	45	360
1971-75.....	713	288	1,001
1976-80.....	1,017	545	1,562

¹ See table 1.

² Based on present plan to increase the enrollment from 52 to 80 in 1965, and to 128 in 1969—pending availability of buildings. Outmigration and attrition based on current rates.

SUMMARY

It is apparent that even with the expansion of the program at Davis California's need for veterinarians cannot be met. Table 4 reveals the projected veterinary manpower deficit which will occur unless (1) more veterinarians are educated in California than at present, or (2) the rate of immigration of veterinarians to California is markedly accelerated.

TABLE 4.—*California veterinary manpower needs, 1965-80*

	DVM's needed ¹	Projected ² increase	Deficit
1970.....	3,622	2,306	1,316
1975.....	4,138	2,947	1,191
1980.....	4,689	3,508	1,181

¹ See table 1.² See table 3.

REFERENCES

1. "Veterinary Medical Science and Human Health." Committee on Government Operations and its Subcommittee on Reorganization and International Organizations, U.S. Senate. H. H. Humphrey, Chr., 1961.
2. "Report on Manpower for Medical Research—Part Four". Department of Health, Education and Welfare, 1962, Subcommittee on Departments of Labor and Health, Education and Welfare, and Related Agencies Appropriations, John E. Fogarty, Chr., page 182.
3. Mr. William Barbeau, Executive Secretary, Board of Examiners in Veterinary Medicine, Sacramento, California. Personal communication.
4. "Age Distribution of Veterinarians with Projections to 1985," Journal of the American Veterinary Medical Association, 146 : 536-543 (1965).

UNIVERSITY OF CALIFORNIA, DAVIS,
OFFICE OF THE CHANCELLOR,
Davis, Calif., April 18, 1966.

I am Dr. Emil M. Mrak, Chancellor of the University of California at Davis. Prior to being named Chancellor, I was Professor and Chairman of the Department of Food Science.

I wish to strongly support the Veterinary Medical Educational Facilities Construction Act of 1966. I am, in fact, amazed that veterinary medical educational facilities were not included with other medical facilities in the original medical educational facilities legislation. As a food scientists and chancellor of a campus with an outstanding school of veterinary medicine, I have long been aware of the close relationship between veterinary and human medicine and the contributions of veterinary medicine to human health and welfare.

We are embarking upon a unique medical educational venture on our campus which I believe holds a great deal of promise for improved teaching and research in the medical sciences and for improved medical services to the people of our state and nation. Our campus has long been noted for its strong, basic program in biological sciences. Few other campuses in the world have as many outstanding biological scientists conducting research on fundamental life processes. We have, too, a vital, research-oriented veterinary medical school dedicated to providing the campus with the unique contributions of comparative biology and comparative medicine. To these programs we are adding a human medical school which we hope will be dedicated to the advancement of the principles of improved patient care. Hence our medical program will, in fact, include the basic biological, physical and social sciences of the University, the comparative medical program in veterinary medicine and the human oriented medical program of our School of Medicine. Few other universities can compare with us in the depth, breadth and potential of this program.

I wish finally to say that we consider modern veterinary medicine to play the same role in medical research and teaching that was played by the so-called experimental medical experts of the past. The veterinarian, at least in my school, is demonstrating his ability to conduct research on diseases and disease processes in animals for the purpose of developing knowledge on principles that apply to diseases in both man and animals. Veterinary medicine has become the very heart of modern experimental medicine and in this way is vital to our health and welfare.

I hope that you will consider favorably the important legislation that you currently have under consideration.

Respectfully submitted by,

EMIL M. MRAK, *Chancellor.*

UNIVERSITY OF CALIFORNIA, DAVIS,
SCHOOL OF MEDICINE,
Davis, Calif., April 14, 1966.

I am Dr. C. J. Tupper, M.D., Professor of Medicine and Dean of the School of Medicine at The University of California, Davis. It is my wish to express strong support for the passage of H.R. 409 introduced by Mr. Leggett of California and entitled, "Veterinary Medical Educational Facilities Construction Act of 1966."

It has been my recent opportunity to become intimately acquainted with veterinary medicine and the role it plays in the overall educational scene in the United States where medicine is concerned. The modern school of veterinary medicine mounts investigation, research, teaching and clinical efforts that are of significant importance to the health of the nation and to human medicine. Veterinary medicine has been defined as "That branch of medical science responsible for the health of all species of animals, except man." The definition in the modern world has been broadened to include a number of responsibilities that impact quite directly on the health of man. These include the measures for control of many infectious diseases, including plague, rabies, typhus, bovine tuberculosis, brucellosis and encephalitis, to name but a few.

Much of modern medicine's scientific knowledge has involved studies in comparative physiology where animal work has been essential and much more such effort must be undertaken by the schools of veterinary medicine in the cooperation and conjunction with the schools of human medicine. The development of suitable animal models for drug testing in primates is one important example. Veterinary medicine is now undergoing the experience of having members of the profession attracted to the faculties of medical schools throughout the United States as the field of laboratory animal care continues to develop. More and more veterinary research personnel and teachers are being added to schools of human medicine and it is most important that facilities for the education of the veterinarian be supported in the same effective fashion as have facilities and programs in human medical education.

At the Davis Campus of the University of California, the new four year medical school is basing its plans on the closest type of interrelationship and integration with the School of Veterinary Medicine and this move is, in fact, a concrete demonstration of the many areas that permit a synergistic reaction whereby the total achievement is greater than the simple sum of the two efforts.

I urge the passage of the Veterinary Medical Educational Facilities Construction Act as indicated, needed, and necessary for the health and the welfare of the people and in the best interest of the citizens of our country.

C. J. TUPPER, M.D., *Dean.*

Mr. LEGGETT. I am pleased to join my colleague, George Andrews, of Alabama, whom I note from a note from the Library of Congress, filed the first bill on January 18, 1960, and he was joined a few months later, April 20, 1960, by our now Vice President Humphrey. He subsequently reintroduced the legislation in 1961.

Many of us then joined him in 1963, and in 1964, and again we have filed this legislation in the 89th Congress.

I would like to congratulate my colleague, George Andrews for pioneering this legislation. I would also like to thank very sincerely this committee for scheduling hearings on this legislation at this time.

We have heard a great deal about the revolution in science and medicine that has occurred in the last two decades. We know about open-heart surgery, many of us have even seen this operation on public television. We are familiar with the wonder drugs, such as penicillin and the tranquilizers. We are aware that polio, once one of man's most

dreaded diseases, nearly has been eliminated. Yes, we all know very much about medical science and the medical specialists who minister to our health needs.

I want to talk about another kind of medical specialist, a specialist who is every bit as important to your health and welfare as the glamorous surgeons, psychiatrists, and internists, but one whose exploits and contributions are largely unsung and are well known only to the world of science. He is the doctor of veterinary medicine, he is the medical specialist trained and skilled in diseases of all kinds of animals, except man—a physician who devotes his medical skill and compassion to the alleviation of pain, suffering, and ill health in the host of animals that serve man and contribute to his health and welfare.

My statement precedes and lists the problem which my colleague, Mr. Andrews, has very elaborately started out and points out that we are not here just on behalf of impoverished and potentially ill dogs and cats, but really, we are here for people. That we would not only have to keep our animals in proper health for their own sakes but we buy food which are produced from animals and today the housewives' food bill is needlessly overburdened at the rate of an estimated \$3 billion every year, which represents the current U.S. loss from animal diseases, which, of course, must be passed on to the consumer.

And an important reason why the United States is one of the most healthy nations, is because veterinarians have controlled or eliminated a host of animal diseases that are also capable of infecting people. I think this is pronounced as zoonoses, and I am not going to elaborate on that, but I am sure the deans of the veterinary colleges who are here would be pleased to spell that out. But we are making some progress.

Veterinary medicine is currently making key contributions to our knowledge of human health. This is due to the fact that man and animals share many of the same diseases. Hence, a better understanding of a disease or disease process in an animal often leads to a better understanding of the disease in people.

Veterinarians are badly needed for our Nation's international development programs. In some of the areas of the world, the chief limiting factor in development is animal disease that reduces food production and debilitates the human population. In South America alone, according to the Pan-American Sanitary Bureau, the control of livestock diseases would increase the supply of protein for human consumption by 25 percent. The world can ill-afford this loss. There is today in this Nation an acute shortage of veterinarians to carry out the functions that I have briefly outlined. This is indeed paradoxical, because thousands of exceedingly bright American boys and girls compete for a very limited number of openings in veterinary medical schools. In my own State of California, 2,810 young people wrote to the University of California School of Veterinary Medicine to inquire about a veterinary education last year. Out of this number, 420 had completed their preveterinary medicine and were qualified were permitted to apply. Only 80, however, could be admitted because of a lack of teaching facilities. Most of the rest will be permanently deprived of the opportunity to study veterinary medicine.

This lack of opportunity for a veterinary medical education becomes highly significant in view of the critical shortage of veterinarians

facing our State and the entire Nation. The California Veterinary Medical Association has estimated that there is a need for at least 300 to 500 additional veterinarians in the States. The dean of the University of California School of Veterinary Medicine informs me that there will be at least 300 inquiries for veterinarians that will go unfilled after the 51 1966 graduates of the school select positions.

At least one-half of these openings are in public health, research, and teaching, and laboratory animal-medical programs. Veterinarians are being sought by the space industry for biomedical research, hundreds of medical research organizations and hospitals are seeking veterinarians to supervise the care and health of laboratory animals, national and international fish and marine biology research organizations are looking for veterinarians to play leading roles in their research programs. The Peace Corps is looking for a large number of veterinarians for their programs. The Food and Agricultural Organization and the World Health Organization of the United Nations both need veterinarians. The U.S. State Department has a chronic problem of obtaining sufficient numbers of veterinarians for their program.

This demand for veterinarians reflects for tremendous change that has occurred in this profession over the last several decades. The veterinarian is looked to now as the medical specialist who deals with disease in all species of animals. He is in great demand because of his basic biological and medical competence.

Finally, there are only 18 schools of veterinary medicine serving the needs of the 50 States of this Nation. There are only 3 in the entire 12-State western region. Veterinary medical education is truly a matter of national and regional concern. Like all medical education it is very expensive. Consequently, the 17 States having veterinarian medical schools should not be expected to bear the entire burden of providing the Nation with veterinary medical educational progr

I strongly urge you to favorably consider the legislation before you which will make Federal funds available for the construction of veterinary medical educational facilities, also for the scholarship program and for funding these school programs.

Mr. JARMAN. We appreciate our colleague's testimony this morning. Are there any questions?

Mr. NELSEN. Off the record.

(Discussion off the record.)

Mr. JARMAN. Thank you very much.

Our next witness is our colleague from Georgia, Congressman Robert G. Stephens, Jr.

It is a pleasure to have you here this morning.

STATEMENT OF HON. ROBERT G. STEPHENS, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

Mr. STEPHENS. Mr. Chairman and gentlemen of the committee, I appreciate your giving me the opportunity for appearing before the committee on the bill that I introduced that is similar.

I have a prepared statement that I would like to ask be presented and placed in the record. But I have one or two remarks that I would

like to make in addition, and I will not repeat what is said in that except to emphasize one or two points.

(The statement referred to follows:)

STATEMENT OF HON. ROBERT G. STEPHENS, JR., A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF GEORGIA

Mr. Chairman and Gentlemen of the Committee, I am glad to be given the opportunity to acquaint you with the bill I have introduced along with Congressman George Andrews, of Alabama, Congressman James Mackay, of Georgia, and others.

It may surprise you to know that I taught in the School of Veterinary Medicine at the University of Georgia for ten years. Because of that experience, I feel both qualified as well as interested to urge favorable consideration of this legislation.

The profession of veterinary medicine is responsible for the health of animals, and through its participation in such fields as basic biomedical research, public health, aerospace and military medicine, is also a fundamental contributor of the health and well-being of the human population.

This expanding population with its increased demands for animal food and fiber products, the increasing danger from the more than 100 zoonotic diseases shared by man and animals, current increasing demands and emphasis on basic biomedical research and other accelerated programs in which the veterinarian is indispensable because of his unique knowledge of animals as experimental subjects and of their diseases have all combined to create an acute and critical shortage of this important member of the nation's health team.

The rural veterinarian assists in the control, prevention and eradication of livestock and poultry diseases to insure that milk, eggs, meats, and their products are disease free. Because of his activities, this country is probably the safest place on earth in which to raise food producing animals. Even today, however, animal diseases cause the American producer a staggering annual loss of \$2.7 billion which is passed on to the consumer. Urban veterinarians minister to the health problems of the small domestic or pet animals, serve on boards of health, inspect meat and perform numerous other functions. In many communities veterinarians engage in general practice in which both farm and pet animals are treated.

Veterinarians actively participate in teaching and research in all colleges of veterinary medicine, veterinary science departments of Land-Grant Universities, and in an increasing number of medical schools. Faculty shortages in many of these schools are acute.

Laboratory animal medicine is an expanding facet of veterinary medicine. Each year 37 million animals, valued at \$250,000,000 are used for medical research, laboratory instruction, and drug testing. In 1958, 125 veterinarians were employed as laboratory animal specialists; today, over 250 are so employed, and a recent study by the Institute of Laboratory Animal Resources of the National Academy of Sciences—National Research Council projected a need of 850 within ten years. These veterinarians are needed in medical and veterinary schools, all facilities conducting research on the cause and effects of disease and in pharmaceutical companies in the development of therapeutic and preventive products for human and animal diseases.

The United States Army and the United States Air Force commission veterinarians to maintain a sanitary food supply for military personnel, maintain proper sanitary conditions at military installations and to participate in applied military research. Military veterinarians have participated in aviation and space research programs leading to the orbiting of man in space.

Veterinarians in the U.S. Public Health Service are concerned with the diseases transmissible between animals and man, air pollution, radiological health, arctic health, milk and food sanitation programs, cardiac studies, allergies and infectious diseases and others. The U.S. Public Health Service in the state and local health departments report a combined shortage of about 535 veterinarians.

The largest employer of veterinarians in the United States is the U.S. Department of Agriculture with principal duties in eradication and control of animal diseases, inspection of meat and poultry for wholesomeness, research on animal diseases and parasites and inspection of animals and animal products entering the United States from other countries. According to a study completed by the Agriculture Science Advisory Committee of the Secretary of Agriculture, approxi-

mately 400 additional veterinarians will be needed within the next five years to satisfy losses due to attrition and to meet minimum requirements.

Experience in my own state at the School of Veterinary Medicine of the University of Georgia has demonstrated during recent years that approximately three positions will come to the attention of the faculty for each graduating senior. These figures reflect a nationwide situation, the acuteness and severity of which are further brought into focus by a recent article titled "Age Distribution of Veterinarians with Projections to 1985," appearing in the Journal of the American Veterinary Medical Association. This study presents evidence that veterinary medicine will not only be unable to meet its responsibilities in new fields but that under current conditions of growth will begin in 1980 to demonstrate a decline in the absolute number of veterinarians due to attrition by death and retirement. This intolerable situation will result from the fact that the number of graduates in recent years from colleges of veterinary medicine in the United States has reached a plateau due to limitations in physical facilities. These limitations separate a large body of young men and women who desire to study veterinary medicine (2.8 applications were received for each first year student admission last year) from the opportunities and needs of society.

Facilities for education in veterinary medicine are expensive just as they are in any of the other health sciences. There are 18 accredited schools or colleges of veterinary medicine serving all of the states and for this reason each school, in a sense, becomes a regional educational institution. For example, the School of Veterinary Medicine at the University of Georgia has contracts through the Southern Regional Education Board with the states of Maryland, Virginia, North Carolina, and South Carolina, none of which has a school or college of veterinary medicine. Under programs such as this a school becomes responsible for the education of veterinarians in a five-state region. Regional schools' responsibilities do not end with the training of undergraduate students but these institutions must also conduct varied research programs, provide graduate training, specialty training, and continuing education for the professional population of the area in order to assure the advancement of the art and science of veterinary medicine in the same region. With commitments such as these it becomes imperative that help for building facilities be provided through federal funds.

My bill, H.R. 4809, is designed to provide this help and to establish a loan fund for veterinary medical students. Only through legislation such as this can the number of graduating veterinarians be significantly increased and only through such an increase can we be assured of continued advances in the important realms of animal and public health and those fields such as experimental medicine and biomedical research which employ animals.

Mr. JARMAN. If the gentleman will yield. Off the record.

(Discussion off the record.)

Mr. STEPHENS. I am very much interested in this because I have had experience teaching in the Veterinary School at the University of Georgia. I taught in the Veterinary School for 10 years. I taught the legal ethics course there. When the veterinary school was separated from the agricultural college several years ago in the 30's, we had no veterinary school. Then we reestablished a veterinary school after World War II at the university. Every reputable medical school has a course in jurisprudence and legal ethics and he asked me to teach it. I became familiar with some of the immediate problems that veterinarians have and became acquainted with the fact that we as citizens of America owe to veterinarians a great deal for what they really do for our welfare and our health.

I have run across these veterinarians almost everywhere because we have belonged to the Southern Regional Education Board. The board arrangement has helped us to have a first-class veterinarian school instead of having a whole lot of schools all over that would not be really up to standard if each one of the States were competing with another for every kind of facility.

Georgia has a working agreement with Virginia, North Carolina, South Carolina, and I believe it is Maryland. I know that when the

boys are graduated from the Veterinary School at the University of Georgia, that for every graduate there are at least three jobs and that veterinary school cannot fill the requirements that are made by the Federal Government now, nor the requirements that are made by our State governments.

I know that we utilize quite a lot of the veterinarians in the agricultural program in our home State in the inspection of all kinds of foods.

We also will hear today—and I am glad to call it to your attention—the president of the University of Georgia, who will give the thoughts that he has on the value of the bill that you are considering—Dr. O. C. Aderhold, who has been a great leader in construction of facilities for the people of our State and our section. He has come up here to make a personal appearance rather than the dean of our veterinary school who has submitted a statement for the record. Congressman Andrews asked that the dean's statement be placed in the record, too.

There is nothing that I can add to what has been said other than these points that I have brought out—that it is a very, very vital problem. I am not on the Appropriations Committee. I am on the Banking and Currency Committee. It might help if we just printed some money necessary to do that.

I will close what I have had to say by not trying to top Congressman George Andrews, but I would have been one of the first, if not the first, to introduce this bill because of my interest in it. If I had the opportunity, I would not have hesitated to be the initial one. I am but glad to cosponsor it with these other distinguished gentlemen who realize the importance of it.

Thank you very much for letting me be a part of this group that has testified.

Mr. JARMAN. Thank you, Mr. Stephens.

Mr. MACKAY. We always welcome the Congressman from Georgia here with us.

Mr. NELSEN. Mr. Chairman, I note that our colleague from Georgia made reference in his statement to arrangements they have with other State dealing with veterinary medicine. It would seem to me that there would be not only justification, but great merit in assistance to the existing school because knowing State budgets as you and I know them, it is not easy to carry the financial burden of both a medical school and a school of veterinary medicine. It is a heavy load. Since after graduation many of the practitioners move to another State, this does of course justify some Federal assistance to a school that provides the training.

Mr. STEPHENS. Very true.

Mr. JARMAN. Thank you very much, Mr. Stephens.

Our next witness is our colleague from North Dakota, Mr. Andrews.

STATEMENT OF HON. MARK ANDREWS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH DAKOTA

Mr. ANDREWS. Mr. Chairman, it was more than a year ago that I introduced in the House of Representatives H.R. 5267, a bill to authorize a 3-year program of grants for construction of veterinary medical education facilities and to provide for a student loan fund.

During the course of these hearings, Mr. Chairman, you will hear considerable testimony on my bill, and similar bills, which will clearly show the importance of veterinary medical science. Concerned basically with the protection and improvement of the health and economic welfare of our Nation, veterinary medicine is playing a rapidly expanding role in our Nation's total effort to eradicate the major physical, mental, and environmental health threats of our society.

I can testify from firsthand knowledge of the importance of veterinary medicine to the livestock industry. Having utilized the services of the veterinarian on numerous occasions on my own North Dakota farm, I can attest to the importance of his work in making American livestock the healthiest and most productive in the world.

Mr. Chairman, I know you will hear salient testimony outlining the importance of veterinary medicine's contribution to our scientific and medical community. The high level of scientific sophistication and performance achieved by veterinary medicine and its contribution to human health and welfare qualify and establish veterinary education as a natural resource—an important natural resource which must be supported and promoted in the national interest.

Of all the facts and figures that will be presented to the committee urging your favorable action of this legislation, I think the following is most important. Unless appropriate and much-needed steps are taken now, figures indicate our Nation will be short by 15,000 professionally trained veterinarians in 1980.

Mr. Chairman, I feel that our Nation cannot and should not allow this to happen, and I strongly urge your approval of this legislation.

It seems you have quite a group of members from the Appropriations Committee appearing before you.

I think perhaps this proves one or two things. Either the Appropriations Committee is still interested in that basic field of endeavor—agriculture—or else we recognize a wise investment of this Nation's funds. I think certainly the latter, because most veterinary training is done on a regional basis where one university does it for a number of States.

This regional concept is a rather unique thing and probably justifies the application of Federal funds more than anything else. I am also told that only 20 percent of the qualified candidates for admission to veterinary schools of medicine are being able to be taken in at the present time. This shows not only that veterinarians are needed, but people are desirous of this training.

I think, also, that when we have men of the capacity of Dean Holm—who is now with your State of Oklahoma, but who got his training in North Dakota, or who served us ably and well before you took him away from us—we know that these funds will be invested in wise hands and I want to let the committee know that I am very much interested in the passage of this legislation, Mr. Chairman.

Mr. JARMAN. We appreciate your being here.

Mr. MACKAY. We welcome your statement.

Mr. NELSEN. Just to comment, first and thank you, my neighbor to the west, for appearing in support of this bill. I think those of us, such as our present witness, who live on farms realize the tremendous contribution that has been made over a period of years. I recall

so well when the area test on tuberculosis started. I was then on the finance committee back home in our State legislature. We started the area test and at that time tuberculosis in dairy cows was a very prevalent thing. We cleaned up our State through the process of an area test, and this represented a contribution to the health of our population. Next came the use of the area test for brucellosis, which is also known as Bang's disease or contagious abortion. We have succeeded in almost eliminating this disease, and we have now embarked on a similar program in hog cholera.

The contribution that has been made through the practice of veterinary medicine is very expensive and I thank my colleague for his interest along with others in supporting this bill.

Mr. ANDREWS. Actually, as Mr. Nelsen pointed out, this increase is the reason for this type of program, because a great deal of the longevity of the American public is due not only to the doctor of medicine, but also the doctor of veterinary medicine working hand in hand. Without the combination we would not have gone as far as we have.

Mr. NELSEN. I might point out that our committee did report out the International Health and Education Act. I am told that a great amount of interest and a great need exists in bringing into the foreign service men who are schooled in veterinary medicine. There is not much value to the bill that we reported out unless there are men to train in the field of Foreign Service. There is a great need in this area, and I thank the gentleman for his good statement.

Mr. ANDREWS. Thank you.

Mr. JARMAN. Our next witness is our colleague from New York, Mr. Robison.

STATEMENT OF HON. HOWARD W. ROBISON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. ROBISON. Mr. Chairman, members of the committee, I am not going to attempt to duplicate the stories of our southern brethren. They always seem to be able to do that so much better than we in the North, particularly political stories.

The only one that I can think of that actually might apply would be the one that Mr. Nelsen knows best which has to do with a bull named "Ollie" which I think he had better tell after the session is over.

I greatly appreciate the opportunity you have afforded me of being present this morning to reaffirm my support for legislation to provide Federal assistance in the field of veterinary medical education.

We have recently recognized the desirability for Federal participation in providing educational assistance to individuals entering into the field of "human" medicine, and we have acted in that area. On the other hand, governmental involvement in agriculture generally is among the longest-standing of our Federal programs. It is altogether appropriate now, then, that we should turn our attention to that vital link between human medicine and agriculture; the veterinarian.

The veterinarian is directly and basically involved in this Nation's health, well-being, and prosperity. We are, of course, dependent upon

animals for the greatest majority of food products consumed in this country in the form of meat, dairy products, eggs, and poultry; and the need to maintain a healthy livestock population is thereby obvious. Not only is the veterinarian vital to maintenance of this healthy environment, but he is also intimately involved in the control of some 200 diseases which can be transmitted from animal to man and man to animal; in addition to being concerned with the many disorders which occur both in mankind and the animal world which can be better studied and researched in animals. Besides all of this, the veterinarian is of the utmost importance to the millions of pet owners who are nearly as dependent on his services as they are on the family physician.

Thus, the manpower needs in veterinary science are widespread, essential, and constantly increasing; yet the necessary education is presently available in only 18 colleges throughout the country. Present facilities are already taxed to their limit while producing an average of only 815 graduates each year; a number far short of our needs today, let alone future requirements. These overcrowded conditions also result in the denial of educational opportunities to genuinely interested and dedicated individuals who want to become veterinarians, but who cannot quite meet the increasingly high competitive standards for admission. This is particularly true of young people from States in which there is no college of veterinary medicine who must go out-of-State for such education.

It is my privilege to represent the Congressional District in which the New York State Veterinary College at Cornell University is located, and in so doing I am keenly aware of the conditions and problems they face. From time to time I am asked to intercede in behalf of somebody from another State who sincerely desires to attend Cornell, and I would like to quote briefly from a letter I have received recently from the dean at that school:

* * * Our veterinary college does admit a few out-of-State students each year; however, the criteria for such admissions are even higher than the standards for in-State applicants. On the basis of facts contained in * * * this student's autobiographical letter, it would seem most unlikely that he could meet our out-of-State competition. This is apt to be the situation at the University of Pennsylvania, also.

Mr. Chairman, as you know, I am the author of H.R. 5954, one of the bills presently under consideration by this committee. To me the need for Federal participation in the area of veterinary science is obvious. I firmly believe that we should enter into a program of rehabilitation of existing facilities, construction of new facilities and a student loan program so as to be able to meet our future needs in this area; and I urge this committee and the Congress to give such proposals their serious consideration.

Mr. JARMAN. Mr. Robison, we appreciate your being here and for your contribution on the record.

Mr. MACKAY. Thank you very much. I am glad we have two votes here.

Mr. NELSEN. Thank you for your statement.

Mr. ROBISON. Thank you.

Mr. JARMAN. Our next witness is our colleague from Florida, Hon. Billy Matthews.

STATEMENT OF HON. D. R. (BILLY) MATTHEWS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. MATTHEWS. Mr. Chairman, recent, careful surveys of veterinary needs in Florida and in the United States stress the urgency of increasing the number of qualified veterinarians as quickly as possible. The American Veterinary Medical Association has indicated that 17.5 veterinarians are necessary to properly supply "quality" food and related needs for each 100,000 persons in the United States.

Statistics of the U.S. Department of Agriculture estimate current losses from animals and poultry diseases at \$1.6 billion, parasites at \$340 million, and insects, at more than \$880 million, or more than a total of \$2.8 billion in losses annually.

Dairymen lose \$500 million to diseases and parasites. About two-thirds of these losses are due to mastitis—a cost of \$18 per cow per year. Swine producers lose \$300 million per year—more than 25 percent of pigs farrowed die in their first few days of life. Beef cattle producers lose \$9 per head annually. Diseases take \$300 million, parasites another \$200 million, and insects another \$500 million. Broiler losses run to 3 to 5 percent of all chicks hatched. Diseases cut egg production 10 percent.

Accordingly, I introduced H.R. 6087, a bill to authorize a 3-year program for construction of veterinary medical education facilities, the training of veterinary medical personnel, and other purposes. Similar bills have been introduced by several of my colleagues who also recognize the great need for expanded facilities for the training of veterinarians. Though I am more familiar with the Florida needs with respect to qualified veterinarians and research in the field of veterinary medicine and shall address myself to these needs, may I point out, Mr. Chairman, that Florida's needs are but a reflection of those on a national scale.

Two years ago the Florida Veterinary Medical Association reviewed factors influencing the present and future needs for veterinarians in our State. These included recognition of the fact that Florida is one of the fastest growing States, now ninth in population; that the income growth from agricultural products exceeds the national rate; and that projected plans for future agricultural expansion and development require an adequate number of veterinarians to assure the highest economic returns for our livestock and poultry producers. Florida's annual estimated disease losses as presented in a report by the agricultural experiment station of the University of Florida, known as the DARE report, are:

Anaplasmosis.....	\$3,000,000
Leptospirosis, vibriosis, brucellosis.....	3,000,000
Blackleg, shipping fever.....	2,000,000
Virus diarrhea.....	2,000,000
Mastitis—dumped milk, replacement costs.....	10,000,000
Sterility, low conception rates.....	13,500,000
Equine abortion, low conception rates.....	2,000,000
Equine influenza, anemia piroplasmiasis.....	2,000,000
Swine disease losses.....	500,000
Parasites and other diseases.....	11,700,000
Poultry disease losses.....	2,300,000
Total.....	52,000,000

This represents approximately 20 percent of the gross sales from animals and poultry.

Factors contributing to an increased demand for veterinary services include increased population (human and animal), livestock prices, farm income per population, national income, fee structures, Government health services, and new specialized fields for veterinarians.

The U.S. population increased from 151 million in 1950 to 192 million in 1964, a 27-percent increase, averaging 1.8 percent per year. Veterinary numbers are projected to increase at a rate of only 0.8 percent until 1975—between there and 1980 the total number will actually begin to decline, unless present veterinary colleges are expanded and new ones are established.

The veterinary profession recognizes its responsibilities and obligations with those in human health:

1. Eradication, control, or treatment of the zoonoses diseases transmitted from animals to man. These include rabies, psittacosis, salmonellosis, tuberculosis, parasitic infection.

2. Health and care of animals used for research in current studies in comparative cardiology, cancer, diseases of man, connective tissue diseases, metabolism; infectious diseases undoubtedly will yield results of real importance.

3. Comparative medical research.

4. Development and use of drugs and biologicals in the prevention and treatment of diseases of domestic and pet animals, their adaptation for human disease studies.

5. Inspection of food, meat, milk, poultry, to provide health, wholesome food.

6. Research on animals and their diseases for space exploration.

America, and especially Florida, has become an urban society and can afford to own pets and provide them with veterinary services. The pet population is increasing at a rate of 1 million animals annually. The proportion of pets receiving veterinary care, now at 15 to 20 percent, is also rising rapidly. In 1962, about 200 veterinarians were engaged in laboratory animal care, while in 1965 the number had increased to 475. It is expected that by 1975 the number may equal those in large animal practice.

Predictions were made at a land-grant college association meeting in 1963 to the effect that by 1980 an additional 4,000 veterinarians would be necessary for governmental services: 800 for animal disease control and eradication, 1,200 for meat and poultry inspection, 300 for research, and an additional 1,700 for other divisions of the U.S. Department of Agriculture. It was estimated that by 1980 the United States would need at least 40,000, whereas we have only 23,667 at present.

There were only 18 schools of veterinary medicine in the United States in 1963. Entrance requirements at these schools vary, but generally are based on 2 years of preveterinary medicine education at a college, university, or junior college. This is followed by 8 semesters of professional study for graduation and the conferring of the DVM degree. In addition to courses in the biological and the medical sciences, veterinary medicine includes considerable practical experience in treatment of and surgery on animals.

We have no veterinary medical school in Florida at this time but the Florida State Veterinary Medical Association is pushing forward as vigorously as possible toward the establishment of a College of Veterinary Medicine at the University of Florida in Gainesville. The Southern Regional Education Board provides for professional education in several fields of higher education including veterinary medicine. By legislative authority, the State of Florida has a compact with the Southern Regional Education Board for the training of Florida students in veterinary medicine, for which compensation is provided by the State. However, many qualified Florida students cannot now attend a veterinary college because of limited quotas. Fewer than 50 percent of those who receive training under the regional education plan return to Florida to practice.

The Federal Government which has so wisely provided for grants in aid for construction of hospitals and needed campus facilities to meet the demands of a rapidly growing population would be acting in the national interest to provide grants for construction of veterinary medical education facilities and for the training of veterinary medical personnel, as suggested in H.R. 6087. I respectfully urge this great committee to give this proposal its most attentive consideration.

Mr. JARMAN. Thank you, Mr. Matthews. Are there any questions? If not, we shall hear next from the Honorable Arnold Olsen, of Montana.

STATEMENT OF HON. ARNOLD OLSEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MONTANA

Mr. OLSEN. Mr. Chairman, I wish to thank you for the opportunity to present my views on behalf of H.R. 490, authorizing construction of veterinary medical schools.

As you know, my State of Montana has considerable investment in the beef industry. There is continuous concern and difficulty in acquiring adequate veterinary assistance for the inspection of meat and for the practitioners in certain areas. This bill would be of great assistance to fill this need.

I request that the letter of Mr. Ralph Miracle, secretary of the Montana Stockgrowers Association, Inc., be included in the record at this point. I wish to add my recommendations with those of Mr. Miracle and the Montana stockgrowers—that H.R. 490 receive your favorable consideration.

(The letter referred to follows:)

MONTANA STOCKGROWERS ASSOCIATION, INC.,
Helena, Mont., April 14, 1966.

HON. ARNOLD OLSEN,
*House of Representatives,
Washington, D.C.*

CHAIRMAN HARRIS: It is our understanding that your sub-committee on Public Health and Welfare plans a hearing on H.R. 490 and related bills authorizing construction of veterinary medical schools.

It will be appreciated if you would advise the sub-committee that the beef cattle industry in Montana is quite seriously concerned about the present and future need for personnel with education in veterinary medicine. We need men for meat inspection, for regulation, administrative positions and also need practitioners in some areas.

We have laws requiring the meat inspection to protect the public health. We have laws requiring protection of the industry in our state from disease. And we need professional services in the veterinary field to maintain efficient and economic production. At present these positions go begging and the future looks even more alarming.

There are only a few colleges (18) of veterinary medicine in the country and only two of these are easily available to us here in Montana. Only a few applicants can get into these colleges and universities at the present time. Current and future needs for veterinarians require that the present facilities be enlarged and that new ones be built. We especially need more facilities in our general area.

The initial support must be a federal responsibility and can best be accomplished by passage of the Veterinary Educational Facilities Construction Act.

Thank you for your help and consideration of this matter.

Sincerely yours,

RALPH MIRACLE, *Secretary.*

Mr. JARMAN. Thank you for presenting your views, Mr. Olsen.

Mr. OLSEN. Thank you for the opportunity, Mr. Chairman.

Mr. JARMAN. If there are no questions, we shall proceed to hear our colleague from Kansas, Chester Mize.

STATEMENT OF HON. CHESTER L. MIZE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS, PRESENTED IN CONCURRENCE WITH HON. ROBERT DOLE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. MIZE. Mr. Chairman, members of the Public Health and Welfare Subcommittee of the House Interstate and Foreign Commerce Committee, permit me to say how pleased I am that you are considering H.R. 490 and related bills to provide veterinary medical education facilities.

You will recall, I am sure, that early last year, shortly after the introduction of this legislation, the members of the Kansas delegation in the House signed a joint letter to the chairman in support of a resolution which has been adopted by the Kansas Veterinary Medical Association. I feel it is appropriate to repeat the language of that resolution at this point:

Whereas, a bill, entitled "Veterinary Medical Education Facilities Construction Act of 1965" has been introduced in the House of Representatives (H.R. 490) by the Honorable Robert L. Leggett of California and (H.R. 3348) by the Honorable George Andrews of Alabama and a similar bill has been introduced in the United States Senate by the Honorable Lister Hill of Alabama (S. 509),

Whereas, we recognize the important contribution Veterinary Medicine is making to the economy and welfare of all citizens of the United States,

Whereas, we recognize that the increased demand for veterinary services and research necessitates the expansion and improvement of existing educational facilities for the training of veterinary medical personnel,

Whereas, we recognize that steadily increasing tuition fees and increasing contributions from private citizens, state appropriations and funds from the veterinary medical profession itself have proven insufficient to provide the necessary capital funds required for expansion and improvement of teaching facilities for veterinary medical personnel,

Therefore, be it resolved, that we, the Kansas Veterinary Medical Association, acting in general session, strongly support these bills and urge that each member of the Kansas Congressional delegation indicate his support of these bills. The representatives should be urged to introduce bills identical to H.R. 490 and H.R. 3348. Each Senator should be urged to direct a memorandum to the Honorable Senator Lister Hill in support of S. 509 since that bill has already been referred to Committee,

Be it further resolved that our executive secretary, in addition to implementing the above action, should direct this resolution to the Honorable Representatives Robert Leggett and George Andrews and the Honorable Senator Lister Hill indicating our strong support for these bills.

We, in Kansas, have long seen the importance of training competent graduate veterinarians. The necessity of protecting the animals' health of the Nation by training students in animal disease courses, sanitation, and hygiene was recognized very early by Kansas State University administrators and livestock growers in Kansas. Therefore, veterinary courses were introduced at Kansas State University in 1868, and from this beginning, the college of veterinary medicine was established formally in 1905. At this time it was organized as a department of veterinary medicine in the school of agriculture, offering a 4-year professional degree curriculum leading to the degree doctor of veterinary medicine. The first class to be graduated was in 1907, and since then over 2,100 men and women have been granted similar degrees. These individuals are practicing their profession in virtually all States of the Union and in many foreign countries.

But as Dr. James McCain, president of Kansas State University, has pointed out in a recent letter to the House Interstate and Foreign Commerce Committee, the demands for veterinarians today far exceed the supply and shortages in the field are growing from year to year.

Dr. McCain stated that Kansas State University, as 1 of the 19 schools in the country to have a college of veterinary medicine, must turn away approximately four-fifths of the students who want to enter the college of veterinary medicine. At the present time there are 400 preveterinary students enrolled in the university, but the college will only be able to accept 80 of these in any one year.

Dr. McCain, feels, and I agree, the additional facilities which will be provided by the legislation under consideration would enable Kansas State University, as well as the other colleges of veterinary medicine, to enlarge their enrollments and accommodate more of the students who are needed as veterinarians not only in the country's livestock industry but also in food inspection and other other types of regulatory services for the protection of human health as well as animal health.

Unless something is done to enlarge the training facilities for veterinarians, the country will face a serious shortage by 1975. This legislation offers a course of action which will prevent such a shortage. I respectfully join in recommending full and complete hearings and prompt action in the public interest. Thank you.

Mr. Chairman, let it be stated for the record that Congressman Robert Dole of the First District of Kansas joins me in this statement to the subcommittee.

Mr. JARMAN. Thank you for your presentation, Mr. Mize.

At this point in the record I would like to submit the statement of the American Public Health Association, as presented by Dr. B. F. Mattison, executive director of the association.

(The statement referred to follows:)

STATEMENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

The American Public Health Association is pleased to join with the sponsors of this proposed Veterinary Medical Educational Facilities Construction Act and with others in strengthening this often times overlooked health specialty.

Among our 16,000 members are a proportionately small but significantly contributing number of Doctors of Veterinary Medicine. From this first hand acquaintance with their talent, their unique skills, we are persuaded that their numbers should be materially increased.

Too often the role of the veterinarian is considered exclusively in terms of caring for our animal pets or in association with our fine agricultural colleges. Yet the accomplishments of veterinary medical scientists in solving problems of human disease illustrates the distinguished role of this one factor in the total health team. Without demeaning the importance of the veterinarian in a large number of different professional vocational settings, this statement of support will be confined to our own sphere of competence—public health.

Historically, the discoveries of the veterinary medical scientist are indeed note worthy. Consider the benefits to mankind of:

Dr. Karl F. Meyer, whose work on botulism virtually eliminated this highly fatal food-borne disease.

Dr. Franz Benesch, who while working with horses and cattle perfected the spinal anesthesia.

Dr. Frank Schofield, who discovered dicumarol, the anticoagulant widely used in treating heart disease.

Dr. Fred Kilbourne, who observed that insects could transmit disease between animals and man and laid the ground work for Reed's conquest of yellow fever.

Consider too the benefits which have accrued from the virtual eradication of bovine tuberculosis or the debilitating effects of hookworm or the use of cowpox virus to immunize against smallpox. All of these and others illustrate well the need to insure future contributions.

The veterinarian has been particularly helpful in the control of zoonoses, that is, those diseases of animal which are transmissible to man. These include tuberculosis, rabies, anthrax, tularemia, psittacosis, and others. He, along with other disciplines, has contributed to progress in the control of communicable diseases. It is the contention of the APHA, however, that the skills of the veterinary medical scientist could and should be utilized to an even greater degree. Especially pertinent, we believe, is his role in an emerging facet of medical science known as comparative medicine. Many of the chronic degenerative diseases of man, the etiology and pathogenesis of which continue to defy understanding, have similar counterparts in animals. Limited research on diseases in animals has already yielded data of value in our understanding the pathogenesis of similar phenomena in man. Studies involving animal populations under controlled laboratory conditions and under actual field conditions in both urban and rural areas would provide information of value for the ultimate control and prevention of chronic diseases in man. For these reasons we have urged expansion of animal chronic disease research and a greater use of veterinarians and other comparative medical scientists in medical schools and other research units.

In order that there will be an adequate number of trained specialists for both the traditional and the newly emerging areas of veterinary medicine, present educational facilities must be enlarged and more students encouraged to undertake the necessary course of training.

Today there are approximately 24,000 doctors of veterinary medicine in North America for a ratio of 12.3 per 100,000 population. Even at this ratio, 31,000 more graduates would be needed by the year 1980 and at the present ratio there would be a shortage of 2,000 veterinarians. On the basis of a projected need of 17.5 D.V.M.'s per 100,000 persons, 44,100 will be needed by 1980 or a shortage of 15,100 at the present 12.3 ratio. Of the present 24,000 veterinarians 525 leave the profession annually due to death or retirement. There are just 18 colleges of veterinary medicine in 17 states which graduate approximately 880 students annually. Because the average veterinarian studies more than 7 years, Federal support through student loans is urgently needed such as is presently provided for those seeking careers in medicine, dentistry, nursing, public health, podiatry, optometry, osteopathy and pharmacy. Many students are turned away due to overcrowding of present facilities. For this reason, Federal support is urgently needed to expand present facilities and to build new schools of veterinary medicine.

The American Veterinary Medical Association has pointed out that the present arrangement will not only preclude a more favorable ratio of veterinarians to population, it will result in the opposite situation. The APHA, therefore, urges enactment of legislation such as that presently before the Committee. Favorable consideration of our position is respectfully requested.

Mr. JARMAN. Our next witness is Dr. W. T. S. Thorp, dean of the College of Veterinary Medicine, University of Minnesota. Dr. Thorp.

STATEMENT OF DR. W. T. S. THORP, DEAN OF THE COLLEGE OF VETERINARY MEDICINE, UNIVERSITY OF MINNESOTA; CHAIRMAN, JOINT COMMITTEE ON EDUCATION OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION

Dr. THORP. Mr. Chairman and members of the committee, I want to take this opportunity to thank all the Congressmen who have come here and supported us.

My name is W. T. S. Thorp, dean of the College of Veterinarian Medicine, University of Minnesota and chairman of the Joint Committee on Education of the American Veterinary Medical Association.

This committee represents the council on education of the American Veterinarian Medical Association, the colleges of veterinary medicine, and the department of veterinary medicine in many universities and land-grant colleges.

At this time for the committee I would like to ask all the individuals that are here from our colleges of veterinary medicine or departments of veterinary medicine to stand up. I think we have somebody here every veterinary college in the United States.

(Whereupon those individuals referred to arose.)

Mr. JARMAN. That is a very impressive representation, gentlemen.

Dr. THORP. Our basic concern is the health and welfare of the Nation. You have all received the documentation of "Veterinary Medicine: Its Requirements and Responsibilities in Relation to Public Health."

The bills represented here are an attempt to secure needed support for an important segment of this Nation's health manpower. A segment which has existed as long as medicine in any form has been on this earth. Further, it is a part of the health profession's team which is playing more and more a significant role in human health.

The veterinary profession embraces all the essential medical and scientific knowledge necessary to continue our battle against all diseases. We have essentially eliminated bovine tuberculosis and brucellosis, we have one of the healthiest livestock industries in the world, we have veterinary officers in the armed services who are responsible for providing wholesome meats, milk, and food products of animal origin. There is above all, a recognition by the scientific and medical community that many of our most prevalent and serious human diseases have counterparts in animals which will serve as models for study by which veterinary medicine provides specific benefits to human health.

I am reminded of the statement that the former Surgeon General, Dr. Luther Terry made 4 years ago on the occasion of the centuries of progress in public health, in which he stated—

In my view of your past as a profession I am also reviewing my own branch of the medical profession. As I turn to the moment of the present to walk into the future, I can predict with confidence that your profession and mine will move forward together, learning from each other and reinforcing each other. We share common achievements and a common challenge.

I am reminded of testimony in 1958 when we were making attempts to be included specifically in support of the research facilities and during the course of these hearings the former Surgeon General Burney stated that if any of the other professionals should be included, other than medicine and denistry, veterinary medicine should probably be included.

The rapidly expanding role of veterinary medicine, and the total national effort to eradicate our societies major mental and environmental health threats has contributed to an already existing shortage of veterinarians in the professional's traditional endeavors, and made this shortage more pressing and more acute.

We find that diseases like leukemia, rhinotrachetis, and others may have more connections than just a model for human diseases or similarity.

We would like to place in the record a detailed statement of this committee's review and statement of needs.

Thank you very much.

Mr. JARMAN. Without objection there will be received in the record the committee's review.

(The statement referred to follows:)

STATEMENT OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION PRESENTED BY
W. T. S. THORP,¹ D.V.M. CHAIRMAN, JOINT COMMITTEE ON EDUCATION OF THE
AMERICAN VETERINARY MEDICAL ASSOCIATION

The Association of American Veterinary Medical Colleges representing the eighteen colleges of veterinary medicine in the United States, the profession as represented by the American Veterinary Medical Association, Congressional Committees and health and agricultural groups have indicated the critical need for support of expanded veterinary medical facilities from the United States Congress. At present, 18 colleges in 17 states provided the education for veterinarians to serve all fifty states. The provision of Federal assistance would make it possible for all states to share part of the financial burden.

The provision of Federal assistance as proposed in the above bills would make it possible to meet a critical shortage of health manpower in veterinary medicine. Similar assistance has been provided to medicine, denistry and others. Without expanded educational facilities to increase the present rate of training, the nation faces a shortage of 15,000 veterinarians by 1980 when 44,000 veterinarians will be needed to provide for health manpower needs.

The modern day doctor of veterinary medicine is important to human and animal health in ways not thought possible a generation ago. These services are in greater need and demand than ever before in the history of the nation. Some of the requirements and responsibilities of veterinary medicine are detailed in this statement.

Veterinary Medicine is concerned with the protection and improvement of the health and welfare of our nation. It embraces medical and scientific knowledge essential to the continuing battle against all diseases both animal and human. The veterinary profession not only safeguards the health of our 50 billion dollar livestock industry, but it shields the human population from scores of animal diseases which may affect man. The eradicating of major livestock diseases, many of which are communicable to man, has freed this country from the age old threats to rural health. This is just one of the major responsibilities of the veterinary medical profession.

Veterinarians in the armed forces and in the Department of Agriculture play an important part relative to human disease. It is the ultimate concern of the veterinary officer in the armed forces that animal foods and food products imported from foreign countries are wholesome. The veterinarian is also engaged in the production and evaluation of drugs and pharmaceuticals and he is active on the rural or urban public health team.

The scientific and medical community have become aware that many of the most prevalent and serious human diseases have counterparts in animals. Medi-

¹ Dr. Thorp is Dean, College of Veterinary Medicine, University of Minnesota.

cal research can only undertake certain investigations on animals which serve as experimental models of the disease in man. This has led to an expanding role of veterinary medicine in the area of human medical research and related biomedical fields.

Many of the medical schools and research institutions employ veterinarians as full time staff members for teaching on research and to emphasize the value of comparative medical studies, not only to medical students but to research associates. The rapidly expanding role in veterinary medicine and the total national effort to eradicate our society's major physical, mental and environmental health threats has contributed to make an already existing shortage of veterinarians, in the profession's traditional endeavors, more pressing and more acute. The American Colleges and Universities at present are graduating 880 veterinarians annually; approximately 525 veterinarians are leaving the profession each year. Unless student enrollment in veterinary medical schools increases substantially, established needs for veterinary services can not be met, and the nation will be faced by 1980, with a shortage of more than 15,000 members of this health profession.

The veterinary medical personnel for the 50 United States are supplied by 18 colleges of Veterinary Medicine in 17 states. Their classrooms are filled to capacity, these facilities need to be expanded. At least four qualified applicants were turned away for each one accepted in the American Veterinary Medical Colleges in 1965. This is especially distressing at a time when we are suffering from an acute shortage of veterinary personnel. The American Veterinary Medical Association estimates that there are approximately 24,000 veterinarians in the United States. To maintain the present ratio of veterinarians it is conservatively estimated that we will need 31,000 veterinarians by 1980, both in the traditional veterinary activities and to staff the newly emerging fields of veterinary medicine. A Senate Committee report on government operations, August 10, 1961, concerning veterinary medical science and human health, estimated that to adequately serve the public as well as the health needs of North America, 17.5 veterinarians per 100,000 population would be needed by 1980.

The latest edition of the Health Careers Guidebook of the United States Department of Labor states: "Today's veterinarian is important to human as well as animal health in ways no one could have thought possible just a generation ago and its services are in greater demand than ever."

The Senate Committee estimated that to adequately serve the public as well as the health needs of North America, 17.5 veterinarians per 100,000 population would be needed by 1980. In 1964, the Bureau of Census revised its projections on population increases as follows: 1975, 230 million population; 1980, 252 million population; 1985, 275 million population.

If the 17.5 figure were applied to the revised projections, the number of veterinarians needed and the apparent shortages would be as follows:

Projected shortages of veterinarians based on present rate of graduation and projected need (17.5 per 100,000 population)

Year	Projected need (United States)	Actual (AVMA)	Net shortage
1975	40,250	28,000	12,250
1980	44,100	29,000	15,100
1985	48,125	28,000	20,125

To earn his Doctor of Veterinary Medicine degree a student must complete a minimum of two years of preveterinary college training and an additional four years of professional training in a college of veterinary medicine. The average graduate veterinarian has studied more than 7 years to earn his D.V.M. degree. In the public interest, passage of the veterinary educational facilities construction act is urgently needed. It would enable the veterinary profession to provide the following.

(A) Necessary buildings to increase enrollment in existing veterinary medical colleges. The limited capacity of these colleges at a time when there is a growing shortage of veterinarians is short sighted. Lack of construction and new teaching facilities is a principal obstacle to increasing student enrollment in most colleges.

(B) Establishment of new veterinary colleges. There are 18 colleges of veterinary medicine in the United States, even with expansion, these will be unable to supply all those needed in the years ahead. Many qualified students in the 33 states lacking a veterinary college find it impossible to obtain an education. Several states have postponed action because of the relatively high cost of construction, maintenance, staffing, and operation of a college of veterinary medicine.

(C) Loans to veterinary medical students to finance their education are needed.

A survey of the Deans of the American Veterinary Colleges reveals that:

(1) Many students are unable to achieve an acceptable level of scholarship performance because of the necessity to work excessively on part time jobs.

(2) Many students who would be excellent veterinarians select other degree programs because of their inability to finance the number of years of veterinary education.

(3) Present support of facilities and student loans in some of the other health professions do much to alleviate these problems, but attract would-be students in veterinary medicine. This means that the future needs of well-trained veterinarians at a time when the activities of the veterinary and medical professions are becoming increasingly complementary would inevitably increase the burden on other medical sciences.

Veterinary colleges are national resources in the full sense. Their support therefore is a federal matter and must be accomplished by passage of the necessary veterinary education facilities legislation. The 18 veterinary colleges in 17 States cannot meet the needs, if it is quite unlikely that each state can support a college of veterinary medicine. Thus, each veterinary school continues to enroll students from states having no veterinary college.

"In some parts of the United States, those states without veterinary medical colleges have entered into agreements with schools in nearby states. However, even where a contract exists, the percentage of applicants admitted from contract states is much smaller than that from the state in which the school is located. Obviously, equal educational opportunity does not exist for aspiring veterinary medical students throughout the United States. Expansion of existing schools and establishment of new schools would do much toward providing equal educational opportunity for all students who wish to study veterinary medicine.

Modern veterinary medicine has achieved a high level of scientific sophistication and performance. Its contributions to human health and welfare establish veterinary education as a precious national interest.

The dimensions of veterinary medicine

Over $\frac{2}{3}$ of all veterinarians in the United States engage in private practice. They safeguard the health of all domestic animals, and birds, prevent the spreading of animal diseases to man, and provide him with a wholesome food supply. Approximately 8,500 veterinarians care for the nation's farm animals, this is necessary to meet the demand of protein food which is on the increase and will continue to increase in order to meet the needs of a rapidly increasing population. The veterinary practitioner is part of the program to eradicate major livestock diseases, many of which, such as tuberculosis and brucellosis are communicable to man. He also protects man against diseases transmissible from animals, such as rabies, leptospirosis, bacterial diarrhea, ringworm, stephalococcosis and psittacosis.

Government service

About $\frac{1}{3}$ of the veterinarians in the United States are in public service—teaching, conducting research or engaged in disease control and preventive medicine. Based on prior and projected requirements it has been estimated that by 1980, 13,000 veterinarians will be needed in public service.

U.S. DEPARTMENT OF AGRICULTURE

Veterinarians are necessary to carry out many functions of state and federal government agencies in the United States. Veterinarians have been engaged in the eradication of livestock diseases including those communicable to man, since 1884 when the Bureau of Animal Industry became a part of the United

States Department of Agriculture. Two diseases of particular public health significance, both of which are targets of a joint eradication effort by U.S.D.A. and the individual states, are tuberculosis and brucellosis in cattle. Brucellosis in swine is another eradication target, because it is a major source of human brucellosis. Successful elimination of brucellosis in cattle and swine will not only largely remove the major sources of human illness, but will also reduce losses of animals through abortions caused by the disease.

Veterinarians working either as members of federal and state government agencies, or as private practitioners, have been responsible for reducing the incidence of brucellosis from approximately 16 percent in 1937 to less than 1 percent in 1965. As a result, reported cases of human brucellosis have dropped from over 6,000 in 1947 to approximately 400 in 1965.

The incidence of tuberculosis in cattle has been reduced from 5 percent in 1917 to .1 percent in 1965. In 1917, well over 2,000 cattle per 100,000 were condemned under the federal meat inspection program because of tuberculosis. In 1964, less than 2 cattle per 100,000 were condemned for this reason. The death rate for tuberculosis in man in 1917 was 125 per 100,000. In 1964, it was a little over 5 per 100,000. Although the reduction of tuberculosis in cattle is not solely responsible for the decline of the disease in man, it has played a major role. The joint efforts of government veterinarians and veterinary practitioners have been responsible for the near elimination of human extrapulmonary and pulmonary tuberculosis of bovine origin from most of North America.

The goal is to eradicate these two diseases completely in animals because until this is accomplished, people will continue to be victims of these diseases through contact with infected animals.

Veterinarians direct meat and poultry inspection programs for federal, state and local governments. This country enjoys the highest per capita consumption of meat and poultry in the world; approximately 200 pounds of meat are consumed by the average person each year. Housewives today demand meats which carry the "Inspected and Passed" stamp backed by veterinary inspection, for this stamp is their assurance that the meat they buy is wholesome and safe."

About 3,280 veterinarians will be needed by 1980 to fill new jobs and replace those who will leave the service in poultry and meat inspection.

Furthermore, veterinarians employed by the Agricultural Research Service of the U.S.D.A. are responsible for broad programs of research in an effort to develop a clearer understanding of the basic mechanisms of disease. The results of their research efforts account for the ever-increasing effectiveness of the activities of both the government veterinarian and private practitioner.

It is estimated that by 1975 in order to carry out established assigned responsibilities on animal disease and parasite research, the Agricultural Research Service, U.S.D.A. will require approximately 370 veterinarians.

DEPARTMENT OF HEALTH EDUCATION AND WELFARE

U.S. Public Health Service

In 1943 the U.S. Public Health Service organized a veterinary medical program and in 1947 established the veterinary officers' corps. Members presently occupy key positions in a variety of programs throughout the Service. Over 100 veterinarians are today employed by the Service in the fields of milk and food sanitation, laboratory animal medicine, comparative pathology and physiology, industrial animal medicine, comparative pathology and physiology, industrial health, epidemiology, infectious diseases, air pollution, radiological health, cancer and cardiovascular and kidney disease research.

Food and Drug Administration

The establishment of a new Bureau of Veterinary Medicine in the Food and Drug Administration reflects the growth in the importance of veterinary products and medicated feeds in recent years. Announcing the establishment of the new Bureau Commissioner George P. Larrick stated: "Hundreds of new potent veterinary medical drugs have been introduced for treating all kinds of animal diseases. Antibiotics are used extensively in feeds for treating and preventing animal diseases and in promoting rapid, efficient growth of normal animals. Hormones and other potent drugs and chemicals are regularly mixed with animal feeds. The widespread use of these products in raising animals for food has imposed on veterinarians a great responsibility in helping to protect the human population which consumes meat and other animal products."

DEPARTMENT OF DEFENSE

Veterinary officers in the Armed Forces work closely with the Medical Corps and other health services wherever prevention of diseases and the promotion of the well being and efficiency of the soldier, sailor and airman is at stake. In addition to food inspection, veterinary officers help in maintaining surveillance over post or base sanitation, and are called upon to assist in controlling epidemic disease outbreaks where knowledge of the cause, source, prevention, and procedures for disease eradication is essential. The military veterinarian is also an important member of the epidemiological team.

Military veterinarians assigned to the Walter Reed Institute of Research and the Armed Forces Institute of Pathology are directly concerned with the identification, control and eradication of the major animal diseases transmissible to man. In support of these basic objectives, veterinarians are currently engaged in areas such as pathologic examinations, research in nutritional diseases, basic studies in immunopathology development of new vaccines and improvement of existing ones, studies in the pathogenesis of "standard" and "new" diseases of laboratory animals, and development of better biological systems for viral isolation studies.

Aero-space and bio-astronautics research programs using experimental animals are conducted by Air Force biomedical teams. These studies on animals encompass hyperventilation, anoxia, overpressures, radiation, deceleration, acceleration, and related hazards, and stresses of space travel. Data derived from these studies are interpreted with a view of man. Some 60 Air Force Veterinary officers with post-doctoral training in medical-scientific disciplines such as pathology, laboratory animal medicine, food technology, radiobiology, physiology and toxicology, serve as essential members of the biomedical research teams. These highly trained veterinary officers provide the Air Force Medical Services with a research capability and a reservoir of knowledge and skills in widely diversified areas.

Military veterinarians have made many contributions to the health and comfort of civilians. Perhaps the broadest service of the military veterinarian to the health of the public was the establishment and maintenance of minimum standards of sanitation in many thousands of food producing and processing establishments throughout the country. Such establishments had to comply with military standards of sanitation in order to qualify for government contracts. As a result, quality control and improved sanitary methods were taught to a large segment of the American food industry.

There were approximately 2,200 veterinarians in the military service during World War II.

Beginning experiments and radiological work directed toward programs of radiological health have employed the veterinarian in one capacity or another since the development of atomic energy.

INTERNATIONAL ORGANIZATION

The federal government together with colleges of veterinary medicine and Land Grant Universities through aid missions, university contracts with foreign countries and university exchange programs, assign veterinarians from their staffs to the Food and Agriculture Organization and the World Health Organization of the United Nations for veterinary medical aid programs. At the 2nd FAO/WHO International meeting on veterinary education, attended by representatives from 41 countries and 13 organizations, it was agreed that maintenance and improvement of animal health, and control of animal diseases are becoming increasingly important to human welfare in all parts of the world.

A summary of the health panel proceedings of the White House Conference on International Cooperation, held in Washington, D.C., November 28-December 1, 1965, stated that "Programs for reduction and elimination of animal diseases can play a major role in improving the world food supply, especially in the provision of protein-rich foods. There are also many animal diseases which are transmissible to man that must be controlled through the efforts of the veterinarian."

INSTITUTIONAL WORK

Teaching

Of the 18 colleges of veterinary medicine in the United States 17 are state institutions relying on state funds as their primary source of financial support.

The 18 veterinary colleges employ approximately 850 veterinarians on their faculties, and in 1964-65 enrolled 3,784 students. Veterinarians are also employed by universities which do not have veterinary colleges, to teach students enrolled in agricultural and biological science programs, to conduct health-related research involving animals, and to care for university-owned animals.

Veterinarians also are being employed in increasing numbers by medical schools in the areas of comparative medicine, pathology, epidemiology, and as laboratory animal specialists.

Extension

There are 57 extension veterinarians in 34 states. Extension veterinarians are staff members of colleges of agriculture or veterinary medicine who carry out educational programs among practicing veterinarians, public health personnel, and livestock owners. There is a growing demand for this type of veterinary service.

Research

In the United States, the total annual losses of livestock and poultry and their products through disease, parasites and insect pests amount to about 2.7 billion dollars.

The need to increase the effectiveness of animal disease control is urgent not only because animal diseases are economically wasteful, but also because many of these diseases are transmissible to man.

The National Academy of Sciences-National Research Council in a recent report stated:

"More intensive research is needed in veterinary medicine and other aspects of animal health in order to solve these pressing livestock pest and disease problems.

"The general world of science has advanced rapidly, into an age of atomic energy and space travel with changes too drastic and spectacular as to constitute a scientific revolution. In too many instances scientists in the field of veterinary medicine have not been able to take the fullest advantage of the new knowledge and techniques that might be adapted to their use because of a serious lack of facilities, equipment, other support and members.

"If veterinary medicine is to keep pace in today's scientific world—if adequate health protection is to be provided for the nation's livestock—then positive and progressive steps must be taken. The three most important of these steps are:

- (1) Provide more and better trained personnel.
- (2) Coordinate the segments of animal health research into a national and international program, and
- (3) Expand and improve the facilities in which to work."

Both basic and applied research are foundation stones on which the biomedical programs are based. Research having to do with diseases of animals transmissible to man and those of major economic importance to owners of food producing animals (including poultry), work animals, pets and pleasure animals constitutes a major activity in the field of veterinary medicine in colleges of veterinary medicine, the Experiment Stations of the Land Grant Colleges, the U.S. Government and in industry.

Because of the demand for basic and applied research in the total bio-medical field, the number of veterinarians engaged in basic medical research is expected to at least triple during the next decade.

COMPARATIVE MEDICINE

Veterinary Medical scientists have made significant contributions to all of medical sciences. Smith and Kilbourne's recognition that an arthropod could serve as a vector of an infectious disease, Texas fever, was a highly important medical discovery. Jenner's use of cowpox virus; Ramon's success in producing an effective immunizing agent against tetanus; Dr. Karl F. Meyer's work on botulism was hailed by medicine and the canning industry as a major accomplishment against this highly fatal food-borne disease. Fracture splints developed by Stader, and hip prostheses by Gorman, as well as spinal anesthesia first used clinically by Benesch were developed by veterinarians in their work with animals.

Veterinary medicine occupies a particularly advantageous position among the sciences in its opportunity to make contributions to medical science. Nearly every member of the veterinary medical profession, whether he is engaged in private practice, regulatory veterinary medicine, or in research, con-

stantly encounters disease conditions in animals, an understanding of which may contribute to medical science and the welfare of mankind. The profession has an obligation to exploit opportunities to study animal diseases to the extent of its resources.

Many of the most prevalent and serious human diseases have counterparts in animals. Vital experimental procedures which rule out the use of man may be undertaken jointly by physicians and veterinarians on animals serving as experimental models.

In this context, several animal diseases are receiving increased attention. Leukemias and Hodgkins type tumors occur frequently in domestic animals; they are similar in most respects to their human counterparts. Other forms of cancer common in animals, particularly dogs, provide excellent opportunities for investigating these diseases with a view on man.

There are respiratory diseases in animals which at present are largely unexplored, and which present distinct similarities to several important human diseases. Pulmonary emphysema of horses and cattle and certain viral pneumonias of cattle, sheep, and dogs may be cited as examples.

Degenerative nervous disorders similar to multiple sclerosis in man are represented in several animal species.

There are several collagen or immunogenic diseases particularly in dogs, horses, mink and mice, which provide counterparts to such human ailments as rheumatoid arthritis, collagen associated kidney disease, lupus, and certain forms of anemia. Some of the animal diseases known to be caused by viruses may provide answers to certain human problems. Cardiovascular diseases particularly of older dogs, are common examples of other experimental models.

Many more examples may be cited. The broad training offered in veterinary medicine, encompassing several animal species, provides an ideal background for the pursuit of such studies. Full utilization of the unique capabilities of veterinarians may well shorten the search for answers to many enigmatic human diseases.

Many medical schools and hospitals engage veterinarians as full time faculty members in teaching and research. This permits emphasis on comparative studies to medical students and researchers and promotes collaborative efforts. A program of this nature is underway at the Johns Hopkins School of Medicine. Five veterinarians on the medical faculty are actively engaged in collaborative research in comparative medicine. Fifty-three of the eighty-eight medical schools of this country have veterinarians on their faculties. More positions are open in other institutions but cannot be filled because of the dearth of trained veterinarians.

LABORATORY ANIMAL MEDICINE

Primates, more closely related to man than other animals, are increasingly preferred as subjects of study. Even after Dr. Salk's and Dr. Sabine's contributions, a large number of people worked together pooling their knowledge in the biological industry to allow the production of enough vaccine to immunize the nation's children. The veterinarian played an important role in such a team, because monkeys were used in tremendous numbers to provide tissue for the production of poliomyelitis virus. The National Institutes of Health in recognition of the importance of primates as laboratory models for the study of human disease, has recently established seven Regional Primate Research Centers. Veterinarians, physicians, and other research specialists will now have the opportunity to study diseases and behavioral aspects of primates which have very close relationships to those of man.

Veterinarians are ideally qualified to select or control the reproduction of healthy animals for medical research, to insure their well being and humane treatment during the holding period prior to conducting experiments, and to provide proper post-experimental care. A study group of the Institute of Laboratory Animal Resources, National Academy of Sciences-National Research Council estimates that at present 250 veterinarians are employed in laboratory animal medicine and that an additional 850 will be needed within 5 to 10 years. Ten years ago, there were only approximately 60 veterinarians employed in this field.

Moreover, an increasing number of highly trained veterinary specialists are being employed by the drug industry for the development and testing of biologicals and pharmaceuticals used in human as well as animal medicine.

ZOOZOSES (DISEASES TRANSMISSIBLE TO MAN)

There are over 100 known diseases according to the World Health Organization which people can acquire from animals. In this field, the veterinarian plays a key role on the epidemiologic team.

Rabies, is associated with the bite of infected animals, the veterinarian has done a great deal to reduce the incidence of rabies in the domestic animal, with corresponding reduction in human rabies. However, in recent years there has been the increasing recognition of rabies in wild animals, notably in bats.

Sleeping sickness in horses, mosquito-transmitted infection is carried by apparently healthy wild animals and birds, and therefore is difficult to eradicate. Man can be infected by mosquito bite, but he does not spread the disease himself. Salmonellosis, influenza, infectious hepatitis, staphylococcal infections, and internal parasitisms caused by the tapeworms of cattle and swine, are some of the diseases also capable of being transmitted by or from animals to man.

THE FOREIGN DISEASE THREAT

The idea of prevention has enabled veterinarians to protect this country from the importation of diseases that could adversely affect our livestock population, economy and health. Any of the diseases such as foot and mouth disease, Rift Valley fever, protozoan disease of cattle and numerous others are reported far beyond those of their origin. Diseases and pests continue to travel with man, animals and plants.

Dr. THORP. May I suggest at this point that President Aderhold who is here from the University of Georgia, and I am not sure in regard to the schedule which you have, but I know he is busy and he probably will have to leave and I think perhaps maybe you would like to call him at this time, if I may suggest that.

Mr. MACKAY. I would like to thank Dr. Thorp for the statement. Since I am a freshman Congressman, sometimes a witness makes the assumption that we know a great deal more about the subject than we do and so the thoroughness of the presentation that you furnished us is very helpful and I want to thank you for that.

Dr. THORP. Thank you very much.

Mr. NELSEN. I wish to welcome my fellow Minnesotan. I think the record should show that Dean Thorp in 1935 was the doctor of veterinary medicine at Michigan State University and professor of animal pathology and research at Penn State in 1938. He was at the National Institutes of Health from 1947 to 1954 and of course now is the dean of our veterinary school at home and also chairman of the Joint Committee on Education of the American Veterinary Medical Association. His background is extensive, and I am sure that we can all learn from the statement that he has submitted, as was pointed out by my colleague from Georgia. Thank you, Dr. Thorp for your statement.

Dr. THORP. Thank you, Congressman.

Mr. JARMAN. Dean Thorp, I thought you might like to comment on a letter that the committee has received, dated today, from the Department of Health, Education, and Welfare. The conclusion of the letter, over the signature of Mr. Cohen, Under Secretary, states—

In the light of other competing and urgent needs in the health-manpower field, we are not able at this time to recommend enactment of this bill.

The letter sets out two matters that I thought perhaps you might like to comment on. The letter says on page 3—

furthermore, we would call your attention to the fact that schools of veterinary medicine are eligible to receive construction funds under the Higher Education Facilities Construction Act, administered by the Office of Education.

That would be the first of the two matters. Then he makes another comment about student loans, which I will read to you in a moment.

Dr. THORP. This is true, to an extent. But the priority which a school of veterinary medicine would receive—I think you are familiar with title I or title II in the departments of education, the priority that the veterinary college per se, as such, would receive in this, would make it so low that they would not be funded.

There may be some other reasons in relation to Mr. Cohen's letter. I think there is a feeling on the part of, some people in HEW and perhaps the Public Health Service, that at that time they would not like to see this attached to the medical legislation. Therefore this is one of the reasons we have our own legislation.

Mr. JARMAN. Has there been any funding of construction in any instance in the country?

Dr. THORP. I think there have been construction funds under the research facilities bill—considerable funding. I think there was funding of one of the veterinary colleges, I believe Texas received some funding under title I, and I think Dean Price can refer to this when he testifies.

It has been our experience at Minnesota and our priority was so low with the commission or the committee in the State of Minnesota, that we would not be funded.

Mr. JARMAN. The other part of the letter that I want to call to your attention so as to get your comments goes on to say—

similarly, students of veterinary medicine are eligible and are receiving loans under the National Defense Students Loan program. Under the latter, it should be noted that a student can receive a maximum loan of \$2,500 for 1 academic year as compared with the \$2,000 maximum authorized in this bill.

Dr. THORP. It has not been our experience that the veterinary student has been able to do this and I think I am correct in saying that under the National Defense Education Act, as it was, there are limitations as to how long a student can get a loan from these sources.

For instance, we had an example with one of our top students recently who had taken 4 years of preveterinary work and he had used up the amount of money that he was eligible for under the National Defense Education Act and he had to go back to university loan funds or else he was going to have to drop out.

In reference to your other question, I have just been given a letter addressed to President Harry M. Philpott, at Auburn University, from the Department of Health, Education, and Welfare in which they applied, under title II, the Higher Education Facilities Act for \$91,000 to assist in construction. [See p. 86.] It says:

After careful consideration of the terms of the Act, however, the Committee was convinced that the field of veterinary medicine was covered by the generic term "schools of medicine" as employed in the Act and that, therefore, it could not recommend to the Commissioner approval of this grant.

In other words, according to this and our own experience we do not have a source of Federal funds for teaching facilities for veterinary medicine.

Mr. JARMAN. Since HEW has taken this initial position on the recommended legislation I think it should be brought out today in

order that we have the benefit of any comment that you and others may have.

Mr. NELSEN. I am wondering—has there been application by a large number of our schools of veterinary medicine for bricks and mortar funds? Is there a record of applications, do you know?

Dr. THORP. I know of three. We have made application and our priority was so low I doubt if it would be funded.

Mr. NELSEN. The point that is made in the letter in denying support of this bill implicates support of the idea that there is a need and if there has been no advance of funds, then either the law is not clear or the priority too low, or something else. I am glad that the chairman brought this to the attention of the hearing because it seems to me it is something we ought to look into.

Dr. THORP. The University of Georgia has a request in, I am told, and it is my feeling in discussions that I have had with people in HEW and Public Health Service, that they recognize the need in veterinary medicine. I think they have a lot of demand put on HEW in various forms of legislation and I might say that, as a matter of history, one of the reasons that we have these bills in veterinary medicine, one of the reasons we have tried to establish this legislation, is that, from 1957 and 1958 on, when medicine was coming in for health research facilities, although we are included as a health related field, when there was first talk of support of medical education, we were advised that if veterinary medicine was included, everybody else would have to be included, and this went on for a number of years. This is when Surgeon General Burney said, if any other groups should be included, veterinary medicine should.

Then, based on that, we were advised to develop our own companion legislation and this is essentially legislation that has been—that is companion to the original bill.

Mr. NELSEN. One more question. I am wondering as to the incidence of undulant fever. Has this incidence gone down in the State of Minnesota paralleling the area tests on brucellosis in cattle? Have you noticed it?

Dr. THORP. Yes, they have. The information that I have is that it has gone down and been reduced.

Mr. NELSEN. As I recall, the employees in our packing plants suffered a high incidence of undulant fever from the handling of the meat products. Do you find the same history trend indicating that the incidence of undulant fever has also dropped among packing plant workers?

Dr. THORP. If I recall correctly, this is greatly reduced from what it was, say 15, 20 years ago when we were sending animals to slaughter with brucellosis.

Mr. JARMAN. Thank you, Dean Thorp.

Did we understand that you were submitting a statement from President Aderhold or that he is here?

Dr. THORP. I suggest that you call on him next because I think he has to leave and I wanted to be sure that he had an opportunity to present his statement.

Mr. JARMAN. The committee will now hear from President Aderhold.

STATEMENT OF O. C. ADERHOLD, PRESIDENT, THE UNIVERSITY OF GEORGIA, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

Mr. ADERHOLD. Mr. Chairman and members of the committee, my name is O. C. Aderhold, and I am president of the University of Georgia. I appear before you today in support of H.R. 490 and similar bills to provide Federal help in the construction and renovation of veterinary educational facilities and to provide a loan program for veterinary students. My appearance is on behalf of the National Association of State Universities and Land-Grant Colleges.

The association is a voluntary organization of 97 State and land-grant colleges and universities, with at least 1 located in every State and Puerto Rico. Together, these institutions enroll over 1.6 million young men and women and grant almost 60 percent of all the doctoral degrees awarded by American institutions of higher education. Sixteen of the 18 American colleges of veterinary science are located at member institutions of the association, and these 16 colleges award about 8 out of every 9 D.V.M. degrees granted in this country.

In these remarks, I should like to avoid, if possible, repeating information that is already a part of the record and is undoubtedly well known by members of this committee. I should, however, like to stress certain fundamental points:

1. The veterinarians in our society have contributed and are contributing basically and importantly to the physical and economic well-being of the people of our country. This much is clear if we consider only the role of the veterinarian in providing for the people of our country the world's best supply of meat and meat products, both in quality and in quantity. This role extends from the professional manning of the world's most effective meat, milk, and meat products inspection system to the research and practice that has made America the healthiest country in the world in which to raise poultry and livestock. The long list of animal diseases that have been eradicated or brought under control is well known, but this role of veterinary science has been dramatized in just the last few weeks by the discovery at Kansas State University of a new drug that has proved to be 100-percent effective in preventing legume bloat, an affliction that has been causing cattle losses of almost \$100 million each year in the United States, an amount over 5 times as large as the authorization for renovation and construction of veterinary educational facilities called for in the bills being considered today by this committee.

Of at least equal importance, is the vital role played by veterinarians in human health. This role includes important successes in eliminating and controlling scores of animal diseases that affect man, such as rabies, viral sleeping sickness in horses, tuberculosis, and others. It includes research that leads to the prevention or cure of some of man's most persistent diseases and ills. The list here is a truly impressive one, including such dramatically basic discoveries as the fact that a dead vaccine can be effective in the control of an infectious disease, that insects can harbor and transmit an infectious agent, and that we can realistically go beyond thinking in terms of merely controlling a disease to thinking in terms of actually eradi-

cating it. This role also includes the design, production, and maintenance, if you will, of the most important and necessary basic research tools of the medical research scientist—the research animals. This role still includes the highly important chore of maintaining the necessary animal colonies, but it has gone far beyond this to include the actual manufacture, if that is the right word, of animals to meet specific and special requirements of specific and special research needs. The fact that this is possible opens up impressive possibilities of fundamental breakthrough in research aimed at prevention or cures for such ills as cancer, heart disease, and even mental disorders.

2. The social need for veterinarians greatly outruns the ability of our colleges of veterinary medicine to produce them. The Senate Committee on Government Operations, in a report with which I am sure you are familiar, has recommended that something over 48,000 veterinarians will be needed in the United States by 1980, based on an estimated need of 17.5 veterinarians for each 100,000 people in the country. To meet that figure, the colleges of veterinary medicine in the country would have to double the present number of D.V.M. degrees they award each year. Even if we project on a "business as usual" basis—that is, on the present rate of 12.3 veterinarians per 100,000 population—a shortage of almost 6,000 veterinarians will exist by 1985 under present rates of graduation.

It seems clear, however, that a business as usual projection is inadequate. Comparative medicine is, for example, a comparatively new field that has already made tremendously impressive advances in human health. Veterinary medicine has contributed significantly and basically to these advances. It seems unwise for us, in the face of this record, to limit the number of veterinarians to the present capacity of the colleges. Further, we can hardly meet the needs of the international war on hunger recently declared by the President without increasing the number of veterinarians for front-line duty. In the vast fertile highlands of east and central Africa, grazing lands that could produce animal protein food remain fallow because of rinderpest, sleeping sickness, and other diseases. In other parts of that developing continent, the average yield of edible meat from cattle is less than one-fourth that expected in the United States. It is clear, then, that if we are to help these countries win the war against hunger, we shall have to share our veterinarians with them, both as practitioners, advisers, and consultants, to help them establish adequate means for veterinary education. We need to remember, at the same time, that despite impressive gains in the past, the job is not yet finished here at home so long as we have poultry and animal losses totaling \$2.7 billion annually.

It would, of course, be unwise to increase the capacity of our colleges of veterinary medicine if students were not available for the expanded programs. Such, however, is not the case. The veterinary colleges of the country are now operating at maximum capacity, and are turning away at least four qualified applicants for each one that they are able to accept. This imposes a particular hardship on students who would like to become veterinarians from those 33 States without schools of veterinary science, despite many regional and in-

terstate agreements with those States in which such schools are located.

3. I should like to emphasize that this is a national problem and emphasize what has been said this morning. As I have indicated, 18 schools of veterinary science located in 17 States must supply the need for veterinarians for the entire country. Our own school of veterinary medicine at the University of Georgia, for instance, is the only such school in a five-State area in the Southeastern United States, serving four other States as well as our own. Besides, the problems involved are not respecters of State borders. Especially with modern transportation, disease spreads rapidly, and the checking or curing of a diseased animal on the Mexican border serves the entire Nation. The \$100 million savings in livestock production as a result of the new drug discovered at Kansas State University applies all across the land, and not just to the ranchers in Kansas. The discovery of the therapeutic value of Dicumarol is universally important. Colleges of veterinary medicine are, then, national—and even international—resources of basic importance to the health and well-being of our people.

I should like to stress one further point. Most of the colleges of veterinary medicine are located at institutions that do not have medical colleges. Even where medical colleges do exist, and especially where they do not, the presence of a veterinary school provides a competence in the health sciences that greatly enhances the breadth and scope of the community of scholarship and research found on these campuses.

Interdisciplinary research involving the interface between biomedical science and other scientific and professional disciplines is made possible, and the undergraduate instructional program of the entire university is enriched. Through this multiplier effect, the strengthening of these schools would help materially to strengthen the overall program of the institutions at which they are located. Michigan State University, in fact, is right now in the process of developing a comprehensive biomedical research and educational competence as an extension of its already existing and outstanding school of veterinary medicine, and we are planning much the same sort of thing at the University of Georgia.

Because of these several reasons, our association strongly recommends your favorable consideration of the program authorized in H.R. 490 and similar bills to provide for veterinary science the same sort of Federal aid that has already been provided for the other health areas. The \$17 million per year for the construction of new veterinary educational facilities and the rehabilitation and renovation of obsolete facilities would make it possible for the schools of veterinary medicine in this country to expand their programs significantly, and the student loan program provided would go a long way toward making it possible for any talented and interested young person to acquire his D.V.M. degree, regardless of the financial position of his family. It would, further, eliminate a glaring inequity by providing such aid for the only biomedical field for which it is not now available. Your favorable consideration is in the highest national interest.

One final point, Mr. Chairman. I would hope that this committee would consider limiting the interest rate on the student loans provided to the flat 3 percent in effect with the National Defense Education Act loan program and the broader program of federally guaranteed loans for all students with family incomes below \$15,000. I realize that the ongoing Federal rate authorized by the bill agrees with the rate established for the loan program in the other medical and health fields, and I am aware of the argument that the student benefits personally from the degree he earns and can, therefore, with a certain amount of logic be expected to pay the full cost to the Government of his loan. But, as I have tried to point out, the "production" of veterinarians is in the highest national interest. The student does participate materially in the cost of his education through the payment of tuition and fees. I would hope that, for these reasons, we would reduce to the bare minimum the "extra" money that we require from the impecunious student, as contrasted with the student whose family is more fortunate, as a result of the interest he must pay on his loan; I would hope that the members of this committee would agree with me that we do not wish to penalize a student because he elects to become a veterinarian rather than, say, a historian or because he is poor rather than rich.

Thank you very much, Mr. Chairman, for the opportunity of presenting these statements to the committee.

Mr. JARMAN. Thank you, President Aderhold, for your contribution to our hearings.

Mr. Nelsen?

Mr. NELSEN. With reference to the interest rate, I gather that you are suggesting the rate of interest be 3 percent mainly because the rate is 3 percent in other areas. However, I would assume if the rates were to be increased across the board, you would have no objections.

Dr. ADERHOLD. I think in our institution, for instance, it ought to be the same.

Mr. NELSEN. I would agree with you.

I want to thank you gentlemen for the very fine statement. I think it is very well done and well presented. Thank you, Mr. Chairman.

Mr. JARMAN. Thank you, President Aderhold.

It is our understanding that Dr. Harrell and Dr. Wolf will not be able to be present beyond the hearing this morning, so the committee will try to accommodate them. We will hear these gentlemen next in order of witnesses.

I would like to say this. We do have a number of witnesses still to be heard. A number have come a long distance and it certainly is the objective of the committee to try and finish the hearing today. To sit this afternoon, we will have to have authorization from the House of Representatives because we go into session at 12. Our objective will be to continue the hearing at 2 o'clock if we can get the authorization to continue.

But I will say to you, one difficulty is that if we are not able to sit this afternoon, this hearing room is scheduled for another committee tomorrow morning. I think it emphasizes the necessity, if at all possi-

ble for the submitting of a written statement for the record, and then extemporaneously, if you will, or if you feel in a position to do so, emphasize the highlights of your testimony that have not been covered in the hearing so far this morning.

Our next witness will be Dr. George T. Harrell, dean, Hershey School of Medicine, Pennsylvania State University College of Medicine, Hershey, Pa. Dr. Harrell, it is a pleasure to have you here.

Dr. HARRELL. Thank you.

STATEMENT OF DR. GEORGE T. HARRELL, DEAN, PENNSYLVANIA STATE UNIVERSITY COLLEGE OF MEDICINE, AND DIRECTOR, MILTON S. HERSHEY MEDICAL CENTER

Dr. HARRELL. Mr. Chairman, I have a prepared statement which I can submit for the record.

(The prepared statement of Dr. Harrell follows:)

STATEMENT OF DR. GEORGE T. HARRELL, DEAN, THE PENNSYLVANIA STATE UNIVERSITY COLLEGE OF MEDICINE AND DIRECTOR, THE MILTON S. HERSHEY MEDICAL CENTER

As dean of a college of medicine, I have responsibility for the education of medical students, for the care of human patients in a teaching hospital, and for overall supervision of the research of faculty and students. The students are both those in the medical curriculum and those working for graduate degrees in the physical and biological sciences as they apply to medicine. The research in medical schools ranges from the most basic phenomena concerned with life processes at the subcellular level through applied studies pointing toward the improvement of the care of human diseases. Medical schools also give training in research methods to students, house officers at the intern and resident level who are planning to practice a specialty within the field of medicine, and postdoctoral fellows who have completed formal training but are pointing toward an academic or research career.

In the course of the teaching and the research continuously going on in a medical school, large use is made of animals. The detailed scientific knowledge increasingly accumulated through research requires animals of known background. Often the requirement is for specific genetic strains. Animals for medical teaching and research should be free of infectious agents which can cause disease in the animal. Indeed on many occasions the animal should be free of germs of any type in order to obtain the best scientific results from experiments. These specifications increasingly are requiring medical schools and other research institutions to have breeding colonies in which the genetic strain is precisely known. In addition, stock animals must be maintained in a situation where they can be stabilized as far as nutrition and environment are concerned.

A wide variety of species of animals are used in medical schools and research institutions. Increasingly, medical teaching and research is turning to the use of primates, those animals which are closest to the human being in many aspects of their bodily processes. Animals are being observed over longer periods of time as increasing emphasis is placed on the study of aging and chronic illness. The chronic illnesses, particularly heart disease, diseases of blood vessels which may result in stroke, and cancer are becoming more and more frequent causes of death. Other chronic illnesses are the cause of disability and interference with the ability to perform productive work. Teaching and research increasingly are emphasizing the importance of behavior as a basis for understanding symptoms with which patients present to the physician. The stresses of living in our society often produce effects which mimic disease. Behavioral reactions also exaggerate symptoms which are produced by existing organic disease.

These requirements for both teaching and research require skilled professional people trained in the handling of animals and the understanding of their bodily processes. The doctor of veterinary medicine with his trained technical assistants is the person who specifically seeks a career in the understanding of

animals and their diseases. A veterinarian should be in charge of the facilities in a medical school or research institution where animals are housed, cared for, prepared for experimentation and observed afterward. These facilities usually include a central animal quarter specifically designed for a variety of species of animals. Many medical schools are establishing animal farms for breeding, quarantine, and long-term observations on animals. The farm type facilities more and more are including units specifically designed for work with primates. The primate units are the most costly to construct and operate, but they do permit observations which could not be done on other species of animals in other types of facilities.

In this country at this time only 18 colleges of veterinary medicine are training the professional people needed effectively to implement animal care programs. Many states do not have veterinary schools and regional deficiencies in training facilities are marked. Increasingly, medical schools are adding graduates of veterinary schools to their faculties and support staffs so that the demand for trained professional personnel may be expected to increase. Public Health departments have always had veterinarians on their staffs who are concerned with the maintenance of high standards for control of water and food supplies which are derived from animal sources. The military services use veterinarians in the control of quality of food and in the protection of the service men from diseases of animals which might be transmitted to them.

The training of veterinarians requires physical facilities for teaching in the basic sciences which are comparable to those found in a medical school. These facilities are more costly to construct than those needed for the training of the average college student in the liberal arts, but are essential for an adequate scientific base for the practice of high-quality veterinary medicine. Increasingly, the curricula are emphasizing the comparative medical approach to the study of animals and the relation of animal processes to those found in the human being. I do not feel competent to comment on the types of facilities needed for clinical training in a college of veterinary medicine. The facilities needed for research training, particularly as it relates to the species of animals which are used in medical research laboratories, would be comparable to those found in a college of medicine or research institution.

I urge your support of legislation to improve both in quantity and quality the facilities needed for the training of these professional people, who will ultimately have an impact on human health.

Dr. HARRELL. I am organizing a new medical center for Pennsylvania State University. We will, of course, use animals, particularly in the teaching of the basic medical sciences. We will use a variety of species of animals, both for physiologic and behavioral studies. We anticipate a considerable program in medical research and for this purpose we need stabilized animals who are disease free. We are constructing at Hershey, in the medical sciences building, a central animal facility and also plan to build there an animal farm, which will be essential for both our teaching and research programs.

For the operation of these animal facilities, we need trained veterinarians and have appointed, as one of the first people on the faculty, a veterinarian to be in charge. He will supervise construction from the ground up and supervise the installation of equipment. The field of laboratory animal care opens an opportunity for veterinarians apart from domestic animals, which have been described here this morning. Especially, I would like to call attention to the increasing use of primates in medical research and teaching. Medical schools increasingly are needing trained veterinarians for their teaching and research programs and I urge your consideration of this bill.

I will be happy to answer any questions.

Mr. JARMAN. Thank you, Dr. Harrell.

Mr. NELSEN?

Mr. NELSEN. I have no questions. But I would like to say thank you to the gentlemen.

Mr. JARMAN. We appreciate your being with us this morning, Dr. Harrell.

Dr. George A. Wolf, Jr. Dr. Wolf is vice president for medical and dental affairs at Tufts University, and executive director of the Tufts-New England Medical Center in Boston, Mass.

STATEMENT OF DR. GEORGE A. WOLF, JR., VICE PRESIDENT FOR MEDICAL AND DENTAL AFFAIRS AT TUFTS UNIVERSITY, AND EXECUTIVE DIRECTOR OF THE TUFTS-NEW ENGLAND MEDICAL CENTER, BOSTON, MASS.

Dr. WOLF. Thank you, Mr. Chairman. I, too, have prepared a written statement which I hope you will see fit to include in the record.

Mr. JARMAN. Without objection.

(The prepared statement of Dr. Wolf follows:)

STATEMENT OF DR. GEORGE A. WOLF, JR., VICE PRESIDENT FOR MEDICAL AND DENTAL AFFAIRS AT TUFTS UNIVERSITY, AND EXECUTIVE DIRECTOR, TUFTS-NEW ENGLAND MEDICAL CENTER, BOSTON, MASS.

I am Dr. George A. Wolf, Jr., vice president for medical and dental affairs at Tufts University and executive director of the Tufts-New England Medical Center. I'm speaking in favor of H.R. 4809 and related bills.

It has been for sometime a mystery to me why much of the research on animal physiology, basic to the understanding of human physiology, has been done by M.D.'s and Ph. D.'s in fields other than veterinary medicine. I've often wondered why the image of the veterinary physician in the public mind was someone to take care of somebody's pet Pekingese, when much progress has been made in understanding the biology of the farm and wild animals.

Incidentally, I can claim a certain amount of expertise in this area, as I am probably the only dean of a medical college who raised pigs, chickens, dogs, and horses while in office. The dogs were the most trouble.

I also wondered why, inasmuch as medical schools and other health related research and teaching institutions are using a large number and variety of animals, veterinary physicians have not been more common on the staffs of these organizations. These groups are quite careful to have qualified people supervise other areas of their activity.

Being involved in the operations of university medical centers, I determined to find the answers to some of these questions.

In medical school animal laboratories I found people who were fond of animals in charge of the operations, but I'm sure that none of you gentlemen would delegate the teaching of your children to nice ladies whose only qualification is that they are fond of children.

In spite of the obvious evidence that research activity enhances medical schools and other teaching programs, I found veterinary schools in which the teaching programs were so time consuming, in view of the limited staff, that there was no time or space for research in spite of grants available for the purpose.

In animal quarters of various medical institutions, I found wooden cages which absorb odors, inadequate plumbing, drains poorly designed so that they become easily clogged by animal hair, quarters poorly designed to prevent transmission of infection, and no provision for quarantine of potentially infected animals.

My most shocking experience was when an investigator reported to me that he had lost nine animals on which he had performed a painstaking and time-consuming operation. These animals, which were to be used later for metabolic experiments, had died of distemper which could have been prevented with adequate facilities and know-how. Imagine the cost of this tragedy.

It, thus, became evident to me that, although there was an enormous need for the services of veterinary physicians in this country to direct and supervise and investigate areas important to the health field both from the educational and research standpoints, an adequate number of these physicians were unavailable.

It is extremely difficult to elucidate these needs on a statistical basis. Most of the figures relate veterinary physicians and number of animals, but, considering the wide variety of animals important to our economy and our research needs, it is obvious that such ratios became meaningless.

I am prepared to say from the experiences described above that veterinary physicians are important to the health needs of this nation and that the bill under consideration is an important first step towards training more of these physicians and towards attracting more young people to enter this field. Certainly the facilities needed to study the biology of animals are equivalent in many ways to those needed to study and teach similar biological processes in man.

I, therefore, urge your support of this bill.

Dr. WOLF. New England has not been represented here today and it may be of interest to you that there is no veterinary school at all in New England, despite the fact that it has been euphemistically said that there are more cows than people in the State of Vermont.

Also, of the reportable diseases in the State of Massachusetts, there are more animal bites than practically any other disease, including things like chickenpox, measles, et cetera, which means there are either a lot of animals in Massachusetts and that the dogs and cats are fighting back.

I would like to focus on one thing and that is the use of veterinary physicians in the medical and dental schools. It is obvious that animals which are in poor shape physically or which have a high mortality rate have no use at all for teaching and research.

In the whole health field, there is a great deal of need, for additional research on animals so that applying results of research to the patient can be accomplished more readily. I think animals, as you are well aware, are very important to this and therefore important to the medical school operations.

For humane as well as practical reasons, the development, the maintenance and planning and design of animal quarters for use by institutions involved in doing teaching, drug testing, and research in the health field has become of increasing importance and I would like to quote briefly from a statement that came from the Committee on Public Health of the New York Academy of Medicine.

It says:

Healthy laboratory animals are a necessity for research, training and testing, which in turn are vital to the health of the people.

They go on to say the most effective system for improving animal care would be, and after mentioning some other things, "ideally, a veterinarian would be appointed to insure the proper care and treatment of the animals."

This reflects the fact that the majority of the medical schools in this country today—this has only happened in the past decade—employ one or more veterinarians to supervise their animals.

I think those are my comments, sir. Thank you.

Mr. JARMAN. Thank you very much, Dr. Wolf.

Mr. Nelsen?

Mr. NELSEN. No questions. Thank you very much.

Dr. THORP. Mr. Chairman, if I may, the letters that I mentioned to you in answer to the question about title II and higher educational facilities for graduate education—with your permission, I would like to enter this in the record. I have permission from the president

of the University of Auburn. With your permission, I would like to put that in.

Mr. JARMAN. Without objection, it will be received.
(The letter referred to follows:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
OFFICE OF EDUCATION,
Washington, D.C., March 24, 1966.

Application No. 2-1252, Auburn University.
President HARRY M. PHILPOTT,
Auburn University,
Auburn, Ala.

DEAR PRESIDENT PHILPOTT: At its meeting on 14 and 15 March, the Advisory Committee on Graduate Education of Title II of the Higher Education Facilities Act considered carefully the application of Auburn University for a grant of \$91,855 to assist in the construction of a School of Veterinary Medicine Building.

After careful consideration of the terms of the Act, however, the Committee was convinced that the field of Veterinary Medicine was covered by the generic term "schools of medicine" as employed in the Act and that, therefore, it could not recommend to the Commissioner approval of this grant. The Committee made it clear, however, that their decision in this matter of policy did not in any way cast reflection on the quality of the veterinary program at Auburn University.

Sincerely yours,

J. W. ASHTON,
Director, Division of Graduate Programs.

Mr. JARMAN. Our next witness is Dr. Don H. Spangler, president of the American Veterinary Medical Association, Atwater, Minn.
Dr. Spangler.

STATEMENT OF DR. DON H. SPANGLER, PRESIDENT, AMERICAN VETERINARY MEDICAL ASSOCIATION

Dr. SPANGLER. I am Don H. Spangler, president of the American Veterinary Medical Association, and am quite honored to appear before you in support of legislation designed to increase veterinary medical education facilities and provide student loans.

Before delivering my statement, I wish to submit a prepared statement to be included in the records of this hearing, if I may.

Mr. JARMAN. The statement will be received for the record.

Dr. SPANGLER. In a speech made a year ago, Secretary of Agriculture Orville Freeman stated:

One of the triumphs of America's beautiful agriculture is the miracle that's repeated every morning at the meat and dairy counters of our supermarkets. Last night's empty showcases are replenished with fresh supplies of meat, milk, and eggs—the very foundation of our diet. And, as usual, we find these foods high in quality, wide in variety, and reasonable in price. This miracle could not be performed for use day in and day out if advances in protecting animal health hadn't made the United States probably the safest country in the world to raise livestock and poultry.

How trifling appears our country's concern with animal health when you look across the border of this safe, secure, and affluent Nation. Today, one-half of the world's population suffers from protein starvation because animal diseases cause production losses of meat, milk, and eggs. Hunger on a global scale looms large among our modern problems, often negating whatever progress we are making in science and technology to ease the common lot of mankind.

Any shortage of veterinarians will be critical to the national economy, particularly to agriculture, because the dependence of human welfare on animal welfare will not decrease, but increase, and the demand for veterinary services will not diminish but rise to unprecedented heights. The future of the veterinary medical profession is first to maintain the guardianship of the health and productiveness of our farm livestock, the producers of food and fiber for present and future generations or our people and the nations abroad. Second, veterinary involvement in public health, medical research, and scientific experimentation will continue at an accelerated pace; for example, epidemiology of the zoonoses, comparative pathology, comparative cardiology, laboratory animal medicine, radiological health, aerospace medicine, and marine biology, and as people become increasingly health conscious, new avenues will open for veterinary services in these and other fields. Third, there will be a growing interest in pets as a support for emotional stability for many people. Therefore, the services of the small-animal practitioner will be desired and necessary, and will contribute sufficiently to human happiness and peace of mind.

My question is, Will enough veterinarians be graduated in future years to meet the accelerated health demands of society? In the 1965-66 academic year, the 18 veterinary colleges in the United States topped all previous records in terms of student enrollment—4,119—first-year students—1,242—and qualified applicants—4,183—all this with extremely crowded facilities. Approximately 880 new veterinarians are graduated each year in the United States; however, attrition due to death or retirement will cause a decrease in the absolute number of veterinarians beginning in 1980. Additional teaching facilities, both new and expanded facilities, need to be realized if veterinary services are to be maintained at present levels or improved.

Another barrier to maintaining a sizable veterinary health force is the rising cost of education. In the 1965-66 academic years, 64 percent of the first-year admissions had more than 2 years of pre-veterinary study. This, plus 4 additional years of academic training, will prohibit many potential students from pursuing their chosen profession. If veterinary medicine is to compete with other health professions in acquiring the most talented minds available, it must be able to offer adequate financial support to all students in need of such support.

Eighteen veterinary schools in 17 States supply almost the entire veterinary manpower for the United States; therefore, Federal support for the professional training program is logical, since such support crosses State lines. The appropriation of Federal funds for the training of additional veterinarians is in the interest of the entire Nation.

Mr. Chairman, thank you for giving me this opportunity to present this testimony urging support for the legislation entitled, "Veterinary Medical Educational Facilities Construction Act of 1965."

(Dr. Spangler's prepared statement follows:)

STATEMENT OF DR. D. H. SPANGLER, PRESIDENT, AMERICAN VETERINARY MEDICAL ASSOCIATION

The earliest recorded entrance of domestic animals into the present United States occurred in 1520 when Ponce de Leon attempted to start a colony in Florida. For the next three and a half centuries animal health problems were

of major concern to the agricultural interests of our developing nation because of our agrarian economy. Data on the death of animals were accumulated and clearly indicated the need for well-trained veterinarians.

President Abraham Lincoln in 1862 signed the Morrill Act which enabled each state and territory to support instruction in veterinary medicine. Currently there are 18 veterinary colleges offering training toward the professional degree in veterinary medicine and 30 departments of veterinary science in additional land-grant institutions. The 18 veterinary colleges supply veterinarians for all 50 states.

The status of the veterinary medical profession today shows that it is firmly set upon a path of continued dynamic growth, a growth whose fascinating characteristic occurs on many fronts, in many different fields.

There are over 24,000 veterinarians in the United States. Seventy percent of them are in practice—mixed, small animal, large animal, or other specialized practice. Almost 26% are in government service, or engaged in teaching and research activities. The remaining 4% are in various fields such as artificial breeding and the pharmaceutical and biological industry.

The medical profession is itself a paradox—that of conquering diseases which eventually will decrease its continued growth. Fifty years ago cattle tick fever was a raging problem throughout the southeast and parts of the southwest. Bovine tuberculosis was widespread. Sheep and cattle scabies, bacterial dysentery, glanders, equine infectious anemia, hog cholera, anthrax, and brucellosis (undulant fever), were major problems. Today, cattle tick fever has just about been eliminated. Cattle and sheep scabies, tuberculosis, and brucellosis have been reduced to a low level; and veterinarians and the federal government have collaborated in a program that will eventually lead to the elimination of hog cholera in this country.

Livestock producers lose many millions of dollars annually to hog cholera. Since 1964, much progress has been made in the cooperative state-federal hog cholera eradication program that as of April 1, 1966, two states have been declared free of the disease. A target date of January 1, 1973, has been set as the goal whereby the nation will become officially cholera free. Eradication of the disease in the United States consists of three aspects:

1. Find the disease and report the outbreak to the proper state and federal authorities.
2. Confine the herds in which hog cholera is prevalent by effective quarantine and shipping regulations.
3. Prompt disposal of infected swine.

Veterinarians are active in each phase of the program.

Growing urbanization of the United States has caused veterinarians to interest themselves in the small pet animal by necessity and demand of a discerning public. It has been estimated by the Pet Food Institute that there are more than 50 million dogs and cats in the United States, in addition to 15 million caged birds. These pets play important roles in fostering health emotional outlets, thereby aiding mental health in many ways. For example, pets serve as child substitutes for the barren, companions for the widowed, playmates for lonely children, eyes for blind persons, etc.

Human health—in terms of both physical well-being and socio-economic progress—is inseparably linked to animal health. The animal world is a reservoir of the agents causing numerous diseases. Such animal diseases that are transmissible to man are termed zoonoses. Zoonoses are among the most frequent and dreaded risks to which mankind is exposed. Wild or domestic animals may carry disease producing organisms which are potentially pathogenic to man, causing the following diseases: rabies, encephalitis (sleeping sickness), tularemia, plague, leptospirosis, and others. These are noted because with increased leisure time more vacationers will be exposed as they acquaint themselves with nature. However, man is also affected along indirect routes—coming in contact with soil or water contaminated with animal excretions or by bloodsucking external parasites. Individuals occupationally engaged in the handling of animals, their carcasses and products, agricultural workers, sewer workers, fishermen, hunters, and bathers are most often affected. Every practicing veterinarian is a guardian of our nation's health by treating the domestic animals whose health may endanger human health.

Modern society has demanded that veterinarians have specific training in the medical and biological sciences as they pertain to animal and human health.

Veterinary specialists in laboratory animal medicine, pathology, public health, radiology, and toxicology have been recognized as valuable scientists to the total health program of the United States.

LABORATORY ANIMAL MEDICINE

Laboratory animal medicine is that segment of veterinary medicine that forms one of the most sufficient links between veterinary and human medicine. In 1965, 60 million animals excluding dogs and cats were used for medical research, laboratory instruction, and drug testing in research laboratories, medical schools, and hospital centers. Today over 250 laboratory animal specialists are so employed. Within the past few years many medical schools and research centers have established positions for veterinarians. Currently 54 medical schools out of 88 have veterinarians trained in laboratory animal medicine supervising the appropriate facilities and participating as research consultants. This trend will continue so that within the next decade every medical school may require on its faculty at least one veterinarian qualified as a laboratory animal specialist.

It has been estimated by the Institute of Laboratory Animal Resources of the National Academy of Sciences-National Research Council that in 1965 the value of the laboratory animals and their equipment equaled the total value of livestock in the United States. By 1970 due to more research of better quality the ILAR estimated that their value would equal the total value of livestock excluding the equipment.

The President's Commission on Heart Disease, Cancer, and Stroke recognized in 1965 that there is an acute shortage of properly qualified and trained veterinarians to assume the responsibilities of the management of central animal facilities in biomedical centers.

PATHOLOGY

Veterinarians are active in research in comparative pathology. The overall frequency of chronic heart disease in dogs is approximately the same as man, and it appears that factors responsible for the disease in dogs are common to man.

Experiments are being conducted to discover more about atherosclerosis—the disease condition caused by the ingestion of saturated or animal fats as dietary ingredients.

Active research programs are being carried out in cancer biology. Breeding cancer susceptible animals, studying spontaneous, induced, or transplanted tumors, and studying the effects of carcinogens (hormones, viruses, chemicals, and ionizing radiation) are all of concern to the veterinary pathologist so engaged.

In 1965, \$1.3 million were awarded to veterinary investigators to conduct eight research projects on bovine leukemia in an attempt to eventually eradicate leukemia in man.

PUBLIC HEALTH

"... the veterinarian's broad training in population medicine and health economics, plus his comparative approach to the study of disease, qualifies him for participation at all levels of government in many facets of public health practice. Some of the specific areas of public health practice for which the veterinarian's skills are particularly suited are epidemiology, communicable disease control, laboratory services, environmental hygiene, nutrition, and health education". (C. W. Schwabe. *Veterinary Medicine and Human Health*. 1964)

RADIOLOGY

The effects of nuclear detonations have created radiation problems with regard to livestock and edible animal products. Now research on the effects of blast, e.g. beta and gamma radiation, genetic changes, radioactive residues, etc. requires profound attention by many veterinarians.

TOXICOLOGY

"Modern medicine and agriculture in the United States of America and in many other countries now demand the ultimate in efficiency of drugs, chemicals and energies and is highly intolerant of side effects or toxic reactions to such

applications. Equally intolerable are upsets of the balances of nature introduced by careless application of materials ranging from household detergents through stream and air pollution to contamination of basic food stuffs.

The application of the principles of toxicology is fundamental to the determination of the safety in use of all compounds and energies. Veterinary toxicologists are of special qualification and value because the ultimate evaluation of harmfulness to man must be extrapolated in large measure from information gained in the study of animals". (R. D. Radeleff, D.V.M., Animal Disease Eradication Division—U.S.D.A.)

In addition to the aforementioned specialty areas veterinarians are also engaged in research in aerospace medicine and marine biology. Prior to sending man in space, experiments using animals were conducted in the recovery of space capsules, acceleration, deceleration, bio-acoustics, in-flight feeding programs, and radio-biology. Because chimpanzees have many basic similarities to man, two chimpanzees were sent aloft 36 miles into the extreme upper atmosphere from Holloman Air Force Base on May 21, 1952. Both returned alive. Chimpanzees and bears were used in experiments of acceleration and deceleration using rocket sleds and large centrifuges. Since high intensity sound can damage man, veterinarians are engaged in bio-acoustical research studying the neuropathology of animals exposed to noise and vibration. Veterinarians also conduct research on in-flight feeding problems involving space vehicles and high performance aircraft. Nuclear weapons, nuclear powered reactors, and cosmic rays are the concern of veterinarians working in radiobiology research.

Research in marine biology has enabled veterinarians to work with porpoises or dolphins to learn more about their sonar system, diving physiology, hydrodynamics, and underwater communication. An untapped avenue of interest in the United States is veterinary involvement in fisheries research, i.e., fisheries pathology, shellfish and bony fish sanitation.

It is obvious that with this wide background of biomedical knowledge the veterinarian can integrate his training in many related disciplines.

Mr. JARMAN. Thank you, Dr. Spangler.

Let me ask you this one question. If Federal support is given as proposed in the bills before us, is there any way of estimating what the future plans will be in the country. Would you anticipate that most States would then have veterinary colleges? In other words, how extensive would be the construction program that you would foresee for the future in this field?

Dr. SPANGLER. In the immediate future, I think our biggest need would be expanding facilities for present schools. I could not see the future, the immediate future at least, a need for a veterinary school in every one of our 50 States.

Mr. JARMAN. But you would anticipate a need for more than 18 at present?

Dr. SPANGLER. I think that is correct, in order to fulfill what we now see would be the demand with the addition of the enlargement and increase in the facilities of the present schools.

Mr. JARMAN. In many of the 18 present schools, priority consideration is given to student applicants from the particular State where the school is located, is it not?

Dr. SPANGLER. That is correct. However, there is consideration from other States where they have contractual arrangements limited with other schools.

Mr. JARMAN. I remember reading one statement before the hearing this morning which, as I remember it, referred to a contractual arrangement wherein I think 25 percent of the student body was from the State where the school is located and 10 percent should come from other States that were in the contractual agreement.

Dr. SPANGLER. I think that is absolutely correct, Mr. Chairman.

Mr. JARMAN. Mr. Mackay?

Mr. MACKAY. Thank you, Mr. Chairman. I had the privilege of being an attorney for the Southern Regional Educational Board when the original regional contracts were drawn. Mr. Chairman, I am going to furnish some information about the partnership between the States that cooperated in providing veterinarian medicine facilities. The reason I think this bill is such a fine bill is that it strengthens and extends that partnership and I want to thank the witness for the fine statement. I certainly agree that the strengthening of the existing facilities is a No. 1 priority with the evident growth of population.

Do you not think ultimately there may be some other schools acquired?

Dr. SPANGLER. Undoubtedly; yes, sir.

Mr. JARMAN. I hope that you understand that my reference to the percentages had no particular intention of indicating that it was not an equitable arrangement. I simply had in mind establishing the need in other States for schools of veterinary training. I was interested in knowing what you might anticipate for the future in terms of new schools in the States that do not now have such.

Dr. SPANGLER. I do not know that I can give you any exact figures. There is a great deal of interest and support in various areas for additional schools. I can perhaps name two or three areas that are considering very seriously—one is in New England and one down in Florida and perhaps an additional one in the West from southern California.

Mr. JARMAN. But you feel that if this bill goes into law, the emphasis for the immediate future would be on the enlarging of present facilities?

Dr. SPANGLER. I think that is the immediate intention; yes, sir.

Mr. JARMAN. Mr. Nelsen?

Mr. NELSEN. Thank you, Dr. Spangler. It would seem to me, and I would like your comment on it, if some Federal funds do flow to the existing schools there would be a greater incentive for them to accommodate students from areas where there are no schools existing and the justifications for Federal funds would be based on that and also would be an encouragement for the existing schools to acquire some attention to out-of-State students, would you not think?

Dr. SPANGLER. I would think that would be very much true.

Mr. NELSEN. In Minnesota many of our youngsters went to Ames, Iowa, but we found they could not accommodate many others who wished to gain entrance. This necessitated a school of our own which I am sure we would have attempted to do without because of the dollar costs, but we had to meet the need. It seems to me that this is a step in the right direction, and certainly the emphasis should be on the expansion of existing facilities.

Another thing, what about manpower in the veterinary medicine teaching field? There is a shortage, is there not?

Dr. SPANGLER. Very much so, to supply qualified teachers.

Mr. NELSEN. Is it not true that the manpower we do have in existing schools could accommodate more students if the facilities were there?

Dr. SPANGLER. That is true; yes, sir.

Mr. NELSEN. Thank you.

Mr. JARMAN. Thank you very much, Doctor, for being with us.

Our next witness is Dr. James E. Greene, dean, School of Veterinary Medicine, Auburn University, Auburn, Ala.

Dr. Greene, we appreciate your being with us.

STATEMENT OF DR. JAMES E. GREENE, DEAN, SCHOOL OF VETERINARY MEDICINE, AUBURN UNIVERSITY, AUBURN, ALA., REPRESENTING AUBURN UNIVERSITY AND THE AMERICAN VETERINARY MEDICAL ASSOCIATION

Dr. GREENE. Thank you, Mr. Chairman, I appreciate the opportunity to be here. I am speaking today as the dean of the School of Veterinary Medicine, Auburn University, and as a representative of the executive board of our national association.

My name is James E. Greene; I am dean of the School of Veterinary Medicine at Auburn University in Auburn, Ala. Currently I am chairman of the executive board of the American Veterinary Medical Association, a national association of graduate veterinarians. Today I am here as a representative of both the university and the association.

Reduced to the simplest terms, the basic concern of veterinary medicine, as a profession, is the protection and improvement of the health and economic welfare of the Nation. Working intimately with the medical profession and with agriculture, veterinary medicine has played a major role in making it possible for the United States to become the best fed and healthiest nation in the world. One-third of the veterinarians in the United States are in such public services as teaching, research, animal disease control, and veterinary public health.

The critical problem facing veterinary medical education in this country is readily apparent when one views the current situation for three population groups in our manpower pool:

1. There are more qualified applicants for admission to the veterinary schools than at any time in history.

2. The number of students in these schools is presently taxing their resources and cannot be increased significantly without additional facilities and faculty.

3. There are more unfilled positions for veterinarians than at any time in history. To compound the problem, a shortage of 20,000 veterinarians is expected by 1985 based on present productivity and expected increased requirements for personnel.

The facts supporting the estimated shortage of 20,000 veterinarians by 1985 will not be included in this statement. They have been delineated in a brochure published by the AVMA entitled "Veterinary Medicine, Its Requirements and Responsibilities in Relationship to the Public Health." Copies of this brochure have already been made available to members of this committee.

The education of veterinarians is only one of the problems we face today. Another major problem is that of quality and diversity of training. The image of the veterinary college as a place for training people limited to treating sick farm or pet animals, or conducting traditional regulatory disease control programs, is no longer a true one.

The modern veterinary college must prepare its graduates to do these things, but it must do a great deal more. It must supervise the care of laboratory animals required for the Nation's rapidly expanding biomedical research program. It must help test the safety and effectiveness of the great number of new drugs and agricultural chemicals. It must participate actively in the complex research programs exploring the basic nature of the diseases of man and his animals. It is only in recent years that the great opportunities for furthering medical knowledge by research in comparative medicine have been fully appreciated. That this type research is complex and highly specialized needs no elaboration. If we are to fulfill our responsibilities, an increasing number of veterinarians will be needed to take their places on the teams required for these studies.

It is obvious that the veterinary colleges are being called on to educate many more veterinarians for the traditional and expanding professional activities. They are also challenged to provide the research training to prepare a significant number of these veterinarians, and other biomedical specialists, to do the research referred to above. Frankly, most of our colleges do not have the facilities required for such a task.

Assistance provided by the U.S. Public Health Service under its health related research facilities program has been strikingly inadequate. To further complicate this problem, we have been informed recently that veterinary medicine is categorically ineligible for funds under title II of the Higher Education Facilities Act.

It is apparent that the need for additional veterinarians with proper training can be met only by expanding existing schools, constructing new ones, and by increasing the financial resources of all the schools. I must not leave the impression that the lack of physical facilities constitutes the major problem. It has been estimated that they account for only 10 to 15 percent of the total cost of education in this country. Nevertheless, modern facilities are essential for a quality program of instruction and research.

Another very real need is increased opportunities for talented students needing financial assistance. Professional study today requires an average of about 7 years of expensive college training. Many outstanding applicants simply cannot finance such a program.

The fact that the veterinarians so essential to the welfare and health of the Nation are all educated in only 17 States emphasizes the national importance of this problem. I might add, parenthetically, that the advancement of veterinary medical education is not only of national, but also of international, importance. While preparing this statement I received a notice that veterinarians are needed this summer for Peace Corps programs in Niger, Ecuador, El Salvador, and Morocco. There is every reason to expect the need for veterinarians in international programs to increase as greater attention is given to international health activities.

In closing, let me state simply that the problem is critical, and the implications for the future of our country are clear. It is for this reason that the American Veterinary Medical Association has undertaken to support vigorously the legislation under consideration by this committee today. On behalf of the association, and the School

of Veterinary Medicine of Auburn University, I urge you to enact this legislation.

Mr. JARMAN. Thank you, Dr. Greene for your contribution this morning.

The Chair will refer again to this letter from Mr. Cohen, the Under Secretary of the Department of Health, Education, and Welfare, not only with the objective of eliciting any comment that you might care to make for the record, but also so that those who are here for this hearing will understand that there are some problems and some expressed opposition to the legislative proposal before us.

Now, one thing that I did not mention before, and I am reading only a part of Mr. Cohen's statement. He pays tribute to veterinary medical contributions to medical science. He says at the bottom of one paragraph:

We recognize these contributions and are grateful for them.

But he does say on page 3:

Today we are facing critical shortages of health, professional and allied health, professional manpower to provide medical care for the people of this Nation.

He goes on into some detail on that. He says we are committed to providing quality health care to every American. The extent and complexity of that commitment requires that we use all our health resources and funds as efficiently and as effectively as possible. If we are to catch up and keep up with the demands for human health services, urgent priority must be given to the training of all of the members of the health team providing those services.

Then, in the fourth paragraph on page 3 he says this:

In the face of these critical shortages of personnel for the provision of personal health services, we are unable at this time to recommend enactment of special health legislation to assist in the basic professional education of veterinarians.

And so, I did want at least to make this public today so that you would have an opportunity to make any rejoinder or comment that you might care to make, sir.

Dr. GREENE. We will go back to his previous point, in addition to the application under title II, we did apply under title I and under that title were granted \$51,000 out of an application of \$435,000. That was due to the low priority which was mentioned previously by Dr. Thorp.

Related to the other question, I have had an opportunity, through serving as a consultant to the Surgeon General of the Air Force, to engage in the conference in Orlando last November when the essence of the planning was directed toward veterinary officers aiding in absorbing some of the routine duties for the physician which would free him to engage in surgery and other complicated duties which involve training in human medicine. I bring that to you simply to relate the fact that there is an involvement which does expand the capability of the human physician and surgeon.

Mr. JARMAN. Thank you very much. Mr. Mackay?

Mr. MACKAY. Mr. Chairman, I would like to add my word of welcome to Dr. Greene. I am sorry that I stepped out while Dr. Aderhold was speaking.

I would like to comment further about the letter from Wilbur Cohen. The letter seems to be downgrading the importance of veterinary medicine in relation to the total field. Sentiment that has been expressed here, is that veterinary medicine deserves just as high a priority as the other phases of medicine. Those of us who are sponsoring this bill contend that veterinary medicine deserves attention now and should not be downgraded.

Dr. GREENE. That is correct.

Mr. MACKAY. That is your view; is it not?

Dr. GREENE. Yes.

Mr. MACKAY. Is there any contradiction between Mr. Cohen and Dr. Philpott?

Dr. GREENE. He is the president of Auburn University. I would be pleased to read that letter.

Mr. MACKAY. Did he say veterinary medicine was categorically excluded?

Dr. GREENE. The committee was convinced that the field of veterinary medicine was covered by the generic term "schools of medicine" as employed in the act and therefore it could not recommend to the Commissioner approval of this grant. That is the end of the quote.

I interpret that as meaning that schools of medicine are specifically and categorically excluded from the Higher Education Facilities Act and, therefore, since the committee's interpretation of veterinary medicine is included under the generic term "schools of medicine" it also is excluded.

Mr. MACKAY. Mr. Chairman, I think it would be very helpful to us to know from these witnesses whether or not they feel that the Higher Education Act should be amended to explicitly provide for veterinary medicine or whether the route we are taking in this bill has better advantages. I would certainly like to ask that of you, Dean, to give me the benefit of your thinking and your association's thinking as to whether or not this bill is superior to an amendment to the Higher Education Act which would explicitly include schools of veterinary medicine.

Dr. GREENE. We believe that it is. Primarily because of the fact that in the Higher Education Facilities Act you are dealing with traditional 4-year university level education, whereas our title relates to and joins medicine in an act which deals with the program involving a minimum of 6 years and perhaps of 7 years and sometimes 8 years.

Mr. MACKAY. I am interested in finding the best legislative route to travel.

Dr. GREENE. For that reason we believe that this is the proper route.

Mr. MACKAY. This bill?

Dr. GREENE. Yes.

Mr. MACKAY. I might mention, when I was out I saw Senator Russell and he was concerned greatly that there might be a lock on further domestic spending, so proponents of this bill have a stake in the international situation and improving it.

That is all, Mr. Chairman.

Mr. JARMAN. Thank you very much for your testimony.

Our next witness is Dr. G. C. Holm, dean of the College of Veterinary Medicine, Oklahoma State University.

It gives me particular pleasure to welcome a fellow Oklahoman to our hearing this morning.

STATEMENT OF DR. GLENN C. HOLM, DEAN, COLLEGE OF VETERINARY MEDICINE, OKLAHOMA STATE UNIVERSITY

Dr. HOLM. I have a prepared statement. I would like to have it included in the record and perhaps I could clarify a few matters that have been mentioned in this hearing.

(The prepared statement of Dr. Holm follows:)

STATEMENT OF DR. GLENN C. HOLM, DEAN, COLLEGE OF VETERINARY MEDICINE, OKLAHOMA STATE UNIVERSITY

Mr. Chairman, Members of the Public Health Sub-committee of the Interstate and Foreign Commerce Committee. My name is Glenn C. Holm and I am Dean of the College of Veterinary Medicine at Oklahoma State University. It is a pleasure to present information in support of the proposed legislation represented by House Resolutions 490, 3348, 4809, 5574, 6332, 5267, 5890, 5954, 6087, 6999, 8029, 11205, 12345, 14206, 14220 and S. 509. We are grateful to Congressmen Andrews Alabama; Steed, Johnson, Leggett, Stephens, Pepper; Andrews, North Dakota; Robinson, Mathews, Frazer, Dorn, Fogarty, Anderson, Nelson, Mackay; and Senator Hill for their support. The Veterinary Medical Educational Facilities Construction Act of 1966 also has strong backing in Oklahoma. You, Mr. Chairman, have received supporting statements from livestock and farm organizations, The Oklahoma Veterinary Medical Association, The University of Oklahoma Medical School, The State Health Department, and Oklahoma State University. Permit me to briefly discuss the regional aspects of veterinary medical education.

The agreement of 1943 between the state of West Virginia and the Medical College of Virginia can be considered as the blueprint for the present Southern Regional Education Board program. Regional education was discussed at the Southern Governors' Conference in 1945. Committees were formed and drafts were drawn for review at future meetings. The compact, which was to become effective when the legislatures of six states ratified it, was approved at the 1948 conference. An interim Regional Council on Education was formed at that time. It is now known as the Southern Regional Education Board.

The regional program was originally designed for all the health sciences to (1) avoid duplication of costly facilities; (2) assist in improving the staffs at contract institutions; (3) increase the pool of qualified applicants for each school, and (4) increase the number of professional men and women in the contracting states. Later, social work, forestry and architecture were added to the programs for medicine, veterinary medicine, dentistry, and public health.

At the present time, veterinary medical education is the most extensive of the various SREB programs. The colleges of veterinary medicine at Auburn University, University of Georgia, Oklahoma State University, Texas A and M University and Tuskegee Institute serve the fifteen southern states. Records indicate that a total of 1,155 men and women have graduated with the degree, Doctor of Veterinary Medicine, under the contract program. In addition, 429 contract students are enrolled in the veterinary medicine programs of these five colleges during the present school year.

When the first SREB students were admitted in the fall of 1949, the contract fee was \$1,000 per year per student. This level of support continued until the fall of 1958 when the fee was raised to \$1,500. Through the school year 1964-65, a total of \$6,932,125 has been paid to the five institutions by the Southern Regional Education Board from funds appropriated by the contracting states. It is estimated that \$643,750 will be paid during the present school year.

The second regional education program serving veterinary medicine, patterned after the Southern blueprint, is active in the Western states where the University of California, Davis; Colorado State University and Washington State University serve the eleven Western states. A few independent State-University con-

tracts are also in force. It is apparent that veterinary medical education is regional in approach and will continue to expand if adequate facilities are available.

Recently, a study of student quotas and costs of training revealed at all of the southern states have increasing numbers of qualified applicants and will need more spaces reserved for future classes. At the same time, the study on costs of student training showed that contract and student fees pay less than half of the training costs incurred by the colleges. Under these conditions and present space limitations, the Admissions Committees of the various colleges are forced to give priority to increasing numbers of resident applicants before any new contract quotas can be approved. Expansion of teaching space can correct this maladjustment.

Some representatives of contracting states indicate a need for expansion of student loan funds. Lack of finances is preventing many well-qualified students from entering veterinary medicine. As more colleges of veterinary medicine move to the trimester and four term programs, the need for student loans will become even more critical.

The national interest in the veterinary medical profession is characterized by increasing numbers of qualified applicants seeking admission. This, in part, is due to a growing awareness that veterinary medicine is one of the most dynamic health sciences. Young people are also learning that there is a critical need for many more veterinarians in practice, regulatory medicine, education and research, industry, and as members of the public health team.

Many veterinarians who serve animal agriculture are joining with colleagues in establishing group practices. These groups are being designed to bring into force many of the special skills needed to fully serve modern livestock production. Group practice in both large and small animal medicine furnish the public with more complete services and, as a consequence, require more graduates.

The need for more graduate veterinarians with special post-doctoral training becomes critical. The colleges of veterinary medicine must train present students in greater depth and, at the same time, furnish refresher and special post-doctoral training for the graduate of earlier years.

Passage of this legislation will strengthen our nation's health and safeguard our food supply. Young men and women now being denied the opportunity to enter their chosen profession could take their places in support of this nation's health and security. At the present time, laboratory and classroom space rather than state lines are the barriers to expanded veterinary medical education. Regardless of the location, all colleges of veterinary medicine are regional in training. Your support and early passage of this legislation will be appreciated.

Dr. HOLM. Dean Thorp indicated that the Oklahoma College of Veterinary Medicine may have money coming under title II. This would be fine but the money that we are getting is out of the \$55 million bond issue that the Oklahoma constituents recently voted for higher education. We are not under the title II as far as I know.

Mr. JARMAN. It is coming from Oklahoma funds entirely?

Dr. HOLM. This is correct. We are getting ready for you and Congressman Steed to get this bill passed.

I do have some material here on regional veterinary medical education that I would like to present. Oklahoma is, of course, a part of this program, therefore, I want to make just three or four brief comments.

The regional program was originally designed for all the health sciences to (1) avoid duplication of costly facilities; (2) to assist in improving the staffs at contract institutions; (3) increase the pool of qualified applicants for each school; and (4) increase the number of professional men and women in the contracting States. Later, social work, forestry, and architecture were added to the programs for medicine, veterinary medicine, dentistry, and public health.

As you know, Mr. Chairman, Oklahoma has a contract with several of the surrounding States and the Southern Regional and Education

Board. These 15 States are served by the University of Auburn, University of Georgia, Oklahoma State University, Texas A. & M., and Tuskegee Institute. Since 1949 these colleges have graduated 1,155 men and women with the doctor of veterinary medicine degree. These are all under the contract program. There are 429 students enrolled in these same colleges today and about one-fourth of them will graduate this spring.

There is a second regional program—the western region involving the University of California at Davis, Colorado State University, and Washington State University, and they serve the 13 Western States, including Hawaii and Alaska.

There are in addition independent State institution type of arrangements such as the one with West Virginia and Ohio State University, the one with North Dakota where my friend Congressman Andrews resides, and for Nebraska. These are private contracts. The point that I would like to make is that student quotas and student costs are not compatible right at the moment. We have been asked by our contracting States to increase our number of contract students. With the pressures of qualified applicants from our own State we must hold the line. But we do hope to increase the class size so that we can handle more contract and Oklahoma students.

At our institution this year, we have 156 qualified applicants, as compared to 139 for last year. These 156 were selected out of 600 trying to get applications. We allowed only students from Oklahoma and the contract States to apply. Out of those 156 qualified applicants we will take 48. We would like to increase our first-year class by 50 percent. And we could do it with the assistance of this type of legislation.

I am sorry Congressman Nelsen isn't here because one of the demands is for more practitioners in the large animal field. There is a growing tendency for group practice, just as in the small-animal practice, and this is the area where we feel the veterinary profession can do a great service by adding extra skills to serve modern livestock production. So these new graduates could supply a great service to animal agriculture. Mr. Jarman, our 1966 class will heed the call of governmental service this spring. Over 10 percent of the 1966 class will go into the Public Health Service on special and important assignments. About 24 percent of the class will go into the U.S. Air Force. Another 23 percent will go into the U.S. Army Veterinary Corps.

Mr. JARMAN. Fifty-seven percent of your graduating class—

Dr. HOLM. Have already made commitments, to go into the U.S. Government service and this does not count those that might enter the U.S. Department of Agriculture service.

The plea that I make is, the need is more for graduate veterinarians with special doctoral training, and this is an area where all 17 of the States and all 18 of the veterinary colleges are involved. The colleges of veterinary medicine must train present students in far greater depth and at the same time furnish refresher courses and special post-doctoral training for the earlier graduates. Our own school and many of the other colleges are giving many international refresher courses in modern veterinary medical education. The Oklahoma contract with Guatemala, is a case in point.

The passage of this legislation will strengthen our Nation's health and safeguard our food supply. At the present time laboratory and classroom space rather than State lines are the barriers to expanded veterinary medical education. All colleges of veterinary medicine are regional in training and your support and early passage of this legislation will really be appreciated, Mr. Chairman.

Mr. JARMAN. Thank you very much, Dean Helm, for your contribution to our hearings.

Mr. Mackay?

Mr. MACKAY. No questions, Mr. Chairman.

Mr. JARMAN. Thank you very much for your testimony.

The House is in session. We are continuing the hearing until we get definite word as to whether we can recess and continue the hearing at 2 o'clock. So we will cover as much ground as we can until we know what the committee plans can be for this afternoon.

Mr. MACKAY. I would like to cite for the record a letter from J. W. Ashton, director of the division of graduate programs to President Harry M. Philpott, of Auburn University, received on March 24, 1966 (see p. 86) in which it was stated that the Advisory Committee was convinced that the field of veterinary medicine was covered by the generic term "schools of medicine" as employed in the act. And that for this reason it could not recommend approval of the grant. Schools of medicine are explicitly excluded from the Higher Education Act, and it was for this reason that the grant was turned down. The other document I would like to refer to without asking that it be introduced was the letter that you quoted from, from Wilbur J. Cohen to the chairman of our Committee on Interstate and Foreign Commerce, commenting on these bills.

Mr. JARMAN. Of course that letter will be made part of the record.

Dr. THORP. Mr. Chairman, that was the letter that I asked to be put in the record earlier. We will leave it up to you.

Mr. JARMAN. I am sure the committee will include it as part of the record in the overall consideration of this entire problem.

Our next witness is Dr. W. R. Krill, dean, College of Veterinary Medicine, Ohio State University.

STATEMENT OF DR. WALTER R. KRILL, DEAN, COLLEGE OF VETERINARY MEDICINE, OHIO STATE UNIVERSITY, COLUMBUS, OHIO

Mr. KRILL. Mr. Chairman, members of the committee, I feel somewhat like I did a number of years ago when I was asked to speak at a dedication exercise and I had my speech all prepared and when I got there I found seven ministers of different faiths on the platform, all of them preceded me and by the time I was called upon there wasn't much left to say.

There is this, though, that I would like to say in regard to this situation. In regard to the remark that Mr. Cohen made in that letter, if we remove the veterinarians and their service in the public health field, the problems and the need for people trained to take care of the human population would be far greater than what it will be if we retain veterinarians who control the food supply and the quality of the food supply that we are consuming.

I would also like to make this remark. Having been one of the deans who has gone through a program of trying to build a whole new facility, having inherited a facility that was 50-some years old and trying to build a whole new facility, since 1946, I know some of the problems associated with it, especially with the demand for education, and the numbers are far greater than what we can take care of in the medical areas. I realize the problems that the administrators have in providing—in giving funds for a worthy cause such as the veterinary medicine when they have this large expansion of student population in the other areas that equally need an education.

It is expensive—the cost of education in veterinary medicine is very expensive. The State of Ohio is investing \$3,200 per student per year over and above what the student pays in fees. This makes it very difficult to take out-of-State students. We do have an informal agreement with the State of West Virginia in which they want us to take the students. We have been taking four. We are trying to live up to that agreement since 1951. Sometimes it is a little difficult to do that and to justify it because the amount of money the State of West Virginia pays to Ohio only covers about half the cost of the education in the investment we are making.

It is very difficult to admit any out-of-State students. We only admit about one applicant out of four who apply for admission. And one of the most discouraging things to an educator who has been selecting students and realizes a need, and our responsibility. It is very difficult for us to turn down well-qualified applicants. At least 50 percent of those turned down would be a real credit to the profession and would make a most valuable contribution to our profession if only given an opportunity.

When I stop to think of the advantages this country enjoys, the food of animal origin that we enjoy that isn't exceeded in quality or quantity any place in the world. When I stop to think that we have only 6 percent of the population of the world and yet we consume 29 percent of the meat in the world. When I stop to think also of the great potential of disease, and as has been mentioned before this is the healthiest place in the world in which to raise livestock. That didn't come about by accident. When you stop to realize all the men who have played a part, Federal men, the people in the Inspection and Quarantine Division, and I happened to be at one time out in Los Angeles on an inspection tour when the international polo team came back—they brought a horse back with them that did not leave with them. Came from the Mediterranean area at a time when a rather dangerous disease was spreading through that area and could easily have been introduced into this country.

And then when I think about a situation that happened in our own State of Ohio only a few years ago, a rather exotic type of unusual—unusual type of disease for our area broke out in different herds and flocks through the State. We immediately—our veterinarians who were the frontline of defense got on the job, called in the State and Federal people, and came to find out it was anthrax that was introduced from bone meal that originated in Egypt, northern Africa, and was sent to the United States by way of Belgium. Fortunately, it was detected early and stamped out immediately. These are the

things which the public does not realize and they do not appreciate the benefits which we received in this country from the services from a rather small number of veterinarians.

A few years ago, realizing the shortage that was going to come, we decided that—and we had been told that there was need for technicians to assist the veterinarians to expand their sphere of activity, we canvassed all the vets in the State of Ohio and surrounding States and we canvassed through the animal—through the American Animal Hospital Association all the vets that were operating hospitals. We found out that the demand was very, very limited and among other things we found out that the vets were not willing to relegate and they did not feel that they could relegate their responsibility of diagnosing and carefully supervising the control of disease in the hands of those who are only trained as technicians. I think that is going to be true, and we want to remember this—medication or treatment of disease is no better than the care and judgment that is used by trained men in determining what treatment and what procedures are to be followed.

So, as I say, one of our most difficult problems, a thing that is most disturbing to me over the years, is turning down these well-qualified young men when I know the contribution that they can make. I think they are a great loss of manpower and one of our greatest responsibilities is to provide an opportunity for these young men to develop their talents to their full potential. When we do not provide those facilities—we have been waiting since 1957 to implement a program whereby we could increase it by 33 $\frac{1}{3}$ percent until we got the building program completed. We are now in the last stages. We hope to get some money from NIH to help build the facilities that will make possible for us to do this job. So, any help along this line, insofar as support of the student let me say this—when we only get into our profession, the student who does not need to worry where this money is coming from and only those who were born with a silver spoon in their mouth, who have not learned the fiscal responsibility of earning and working for what you have—when we only get those a privileged few, we are going to lose the soul of our profession, so I urge this committee to give every consideration and every bit of support we can to help meet this demand.

Mr. MACKAY. I would like to make a comment. Those of us who are first-term Congressmen certainly do not know all the answers. I think we should not assume, however, that the executive department knows all the answers. I have great respect for Mr. Cohen, but he has expressed a judgment which I do not share and I do not believe you share. The way you get legislation through is to get enough people who believe in it to go through. I hope your group will work with some new figures over at the Department, like Dr. Phil Lee, because a statement from a recommendation I have learned already really hurts the chances of a bill and so I think there is some work that is cut out for your group here in helping us get this bill through. I concur with your remarks about having a balanced student body.

Mr. JARMAN. In line with what my colleague is saying, it does seem important to all of us on the committee that we at least lay on the table any opposition to proposed legislation so that as complete and effective response can be elicited during the hearings as possible.

Dr. KRILL. I just want to make one other remark, and that is, I do have a prepared statement. I hope it will be placed in the record.

Mr. JARMAN. It will be received.

(The prepared statement of Dr. Krill follows:)

STATEMENT OF DR. WALTER R. KRILL, DEAN, COLLEGE OF VETERINARY
MEDICINE, OHIO STATE UNIVERSITY, COLUMBUS, OHIO

In presenting the need for the establishment of a College of Veterinary Medicine, as a part of the new Land-Grant College Program at The Ohio State University, Dr. Norton Townsend, a physician, noted agriculturalist and 1st Dean of the College of Agriculture, made this statement. "If we are to have a sound agricultural program in this country, we must have a sound, healthy animal industry; and in order to have a healthy animal industry, we must have men medically trained in the field of animal disease."

The wisdom of this statement, made some 80 years ago while this country was still in its infancy, is so evident in our food markets today, where food, particularly of animal origin, is available in greater quantity, higher quality and greater variety, than in any other country in the world. While the United States has only 6% of the world population, we consume 29% of the world's meat. Many factors enter into the reason for this abundance of animal and poultry products, not the least of which is the contributions made by an alert veterinary profession, who have pursued a vigorous program of disease prevention, control and eradication.

Why is America today referred to as one of the safest places in the world in which to raise livestock and poultry? The answer lies in the fact that the veterinarians of our federal inspection and quarantine division instituted and exercised rigid inspection on all imports of animal and animal products; carried out vigorous State and Federal programs for the control and eradication of such animal diseases as Tuberculosis, Brucellosis, Scabies, Hog Cholera, Ticks, etc.; the dedicated service of private practicing veterinarians who have served as the front line of defense, and in most cases were the first to come in contact with new or unusual diseases as they appeared in the communities in which they performed their services and were prompt in alerting the proper state authorities before the disease became widespread; and last but not least the research veterinarians in our veterinary colleges and experiment stations who provided the assistance and know how, so important to the control and elimination of animal disease. Without the dedicated service of these relatively small numbers of veterinarians, the livestock and poultry industry would not be able to produce the foods of animal origin in the quantities we now enjoy and at a price many times cheaper per unit of labor than in most any country in the world.

The danger of bringing new diseases into this country and the need for more veterinarians to protect our livestock industry, which constitutes one of our most important food resources, was never greater. A good example of this constant threat was the sporadic outbreak of Anthrax which occurred in Ohio only a few years ago. Fortunately the front-line practicing veterinarians recognized the unusual nature of the disease and immediately called in State and Federal veterinarians. Soon the disease was diagnosed and the source of the infection was traced to bone meal imported from a foreign country. Immediate action in withdrawing the bone meal from the market put an immediate stop to what might have caused serious animal losses, as well as human fatalities.

With airplanes traveling to the most remote corners of the world, carrying people, animals, animal products, insect vectors, as well as other means of bringing foreign diseases to our shores, including the potential of biological warfare, more and better trained men must be provided to protect the health of animals which supply the foods so essential to our daily diet. If our veterinary colleges are to supply sufficient veterinarians to protect this most important food resource in keeping with our rapidly expanding population and at the same time supply the rapidly increasing needs for biomedical research, public health and health related industries, at least five more new schools for educating veterinarians are needed and the facilities of all our present veterinary colleges must be expanded.

Veterinary facilities are expensive, requiring similar diagnostic therapy, surgical and radiological equipment used in the teaching of human medicine

and the operation of a human hospital. The vast increase in demand for graduate veterinarians with graduate training to the Master's and Ph. D. level has greatly increased the cost of veterinary facilities due to the necessity of having available the complicated, definitive, equipment so essential for training in modern research methods.

Already during the past 12 years the State of Ohio has invested over 5 million dollars in veterinary facilities and we are now in the process of planning a 4 million dollar veterinary hospital. We had been hoping that Federal matching funds for teaching facilities would be made available, such as was done for the other health related fields, in order that we might be able to plan a hospital in keeping with realistic needs. As it is, we must build within our appropriated funds, necessitating considerable cutting back, which will greatly hamper our over-all program and allow very little opportunity for enrollement expansion. This latter is very serious since for many years we have been able to admit only about one out of every four applicants.

If there is any area in education where Federal aid is justified, it is in the training and education of veterinarians. At present, 17 states must supply the veterinary professional personnel of all fifty states. Eight of these colleges, representing an 80% increase have come into existence since 1946, and still the demand for veterinarians today far exceeds the supply.

Since the entire United States benefits from the veterinarians educated in the 17 state supported colleges, is it unreasonable to expect all the other states to share in this rather expensive educational program through some form of Federal subsidy? The cost of educating a student in veterinary medicine to the State of Ohio is conservatively \$3,200 per year. In some states the cost is even higher. In view of the high cost of veterinary education to the states supporting the present colleges, it is becoming increasingly difficult to admit nonresident applicants.

Knowing that the estimated need for veterinarians by 1980 is 47,250 and being faced with rapidly increasing new opportunities in health related fields requiring professionally trained personnel in veterinary medicine, it is most distressing to those of us who must deny admission to approximately 75% of our applicants, at least half of whom are highly motivated and qualified, and would serve the profession well if facilities were available to give them the necessary training and education. In many of these new positions the opportunities are quite challenging and could easily result in a serious deficiency of veterinary personnel in the area of service, which has been the foundation of our profession over the years and in which veterinary medicine has contributed so much to the economy and welfare of our country; namely, in guarding the health of our animal population.

In conclusion, I wish to again emphasize that if our veterinary profession is to meet the challenge of supplying the rapidly increasing demands for veterinarians in the broad field of biomedical research and service, public health and the unique basic protection to the health of our livestock industry in order that adequate foods of animal origin will be available to future generations of a rapidly expanding population, far more colleges of veterinary medicine will be needed in the years ahead. Passage of HR 3348 with its provision for matching funds for veterinary teaching facilities will without a doubt result in the establishment of these new colleges and the expansion of the facilities in the already established colleges. Herein lies the only hope for the veterinary profession to supply the trained personnel to properly serve the future needs of our nation.

Mr. JARMAN. The committee has received permission to sit at 2 o'clock. We have three more witnesses to be heard, so we will now stand in recess until 2 o'clock.

(Whereupon, at 12:40 p.m., the committee recessed, to reconvene at 2 p.m. the same day.)

AFTERNOON SESSION

Mr. JARMAN. The committee will please come to order.

Our next witness is Dr. W. R. Pritchard, dean of the School of Veterinary Medicine, University of California at Davis, Calif.

STATEMENT OF DR. W. R. PRITCHARD, D.V.M., DEAN, SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF CALIFORNIA, DAVIS, CALIF.

Dr. PRITCHARD. Mr. Chairman, members of the committee, I am W. R. Pritchard, and I am dean of the School of Veterinary Medicine, University of California at Davis.

I would like permission, Mr. Chairman, to enter this written statement into the record.

Mr. JARMAN. Without objection it will be accepted.

(The prepared statement of Dr. Pritchard follows:)

STATEMENT OF DR. W. R. PRITCHARD, D.V.M., DEAN, SCHOOL OF VETERINARY MEDICINE, UNIVERSITY OF CALIFORNIA, DAVIS, CALIF.

I am Dr. W. R. Pritchard, D.V.M., Dean, School of Veterinary Medicine, University of California, Davis. I would like to make a statement about some contributions of veterinary medical research to human health in support of H.R. 490, "The Veterinary Medical Education Facilities Construction Act of 1965."

Veterinary Medicine is the branch of medical science responsible for the control of diseases of all species of animals except man. The D.V.M. applies the principal of medical science to the alleviation of pain, suffering and ill health in man's animals. He is responsible, too, for the protection of people from zoonoses, i.e., those animal diseases that may also affect people. Most importantly of all, however, veterinary medicine makes highly significant contributions to the health and welfare of man through research by adding to our knowledge of disease and disease processes. It is my objective to briefly describe some of the unique ways that veterinary medical research contributes to the health of people.

A RICH HISTORY OF RESEARCH ACCOMPLISHMENTS

Since the time of Pasteur, veterinary medical scientists have made significant contributions to the body of knowledge that constitutes medical science. I shall cite only a few examples typical of many hundreds made by veterinarians.

Smith, Kilborne and Curtice, seeking means to control Texas fever of cattle, a disease threatening the cattle industry of this nation in the latter 1800's, discovered that arthropods, in the case of Texas fever a tick, are capable of spreading disease. This finding has proven to be one of the most important principles of infectious disease control. It has led to successful control of many important arthropod-borne diseases of people such as malaria, yellow fever, sleeping sickness, Chagas' disease, and numerous encephalitides.

A French veterinarian, Ramon, working on ways to protect French cavalry horses from lockjaw, developed the first effective immunization agent against a toxin. Successful methods of preventing tetanus, diphtheria and other diseases induced by toxins in people resulted from his work.

Karl F. Meyer, D.V.M. of the University of California, devised means to control botulism in canned foods, making the great food canning industry possible at a very critical time in its history.

William Feldman, D.V.M., formerly of the Mayo Foundation and now the U.S. Veterans Administration, more than anyone else is responsible for emptying the nation's tuberculosis sanitariums of patients formerly doomed to something akin to life imprisonment. This veterinarian brought to the human medical community the methods successfully used to control T.B. in cattle and in addition led the nation in research which resulted in the successful treatment of T.B.

Otto Stader, D.V.M., a practicing veterinarian specializing in pets, developed a revolutionary method of reducing fractures in animals. Many Americans, particularly former World War II servicemen, owe their arms, legs, jaws and other bones to the Stader splint, which in its time was an important contribution to fracture repair.

The use of oral polio vaccine was backed by nearly 15 years of experience with the successful use of oral vaccines in animals.

These are only a few of hundreds of examples of ways the health and welfare of people have been benefited by veterinary medical research.

ANIMAL DISEASE MODELS OF DISEASES OF PEOPLE

It is becoming apparent that for nearly every disease of people there is a similar or identical disease in some species of animal. The animal may be a dog, cat, mouse, horse, rabbit, turkey, chicken, sheep, cow, deer, primate or even a fish. Many of these animal disease models are far better suited for studies on the nature of a disease and means to prevent or treat it than are sick people. Hence, research on these diseases contributes directly to the health of people by increasing our understanding of diseases and disease processes in man.

Animal disease models of diseases of people are becoming increasingly important to medical research. Chronic and degenerative diseases such as cancer, stroke, heart disease and emphysema have become the chief killers and disablers of the American people. Unfortunately, there is no adequate way to reproduce many of these diseases in animals for study. On the other hand, many of them occur under natural conditions in lower animals, hence veterinarians have a unique opportunity to provide medical science with models of these diseases for research. A veterinarian's training and experience with the biology and diseases of these animals make him especially qualified to conduct research on the principles of disease and disease processes with these models.

EXAMPLES OF RESEARCH ON ANIMAL DISEASE MODELS FROM THE U.C. SCHOOL OF VETERINARY MEDICINE

Veterinarians from the Western U.S. refer farm animals, zoo, wild and fur-bearing animals, laboratory animals, and pets with unusual diseases to our School's Veterinary Medical Teaching Hospital for intensive study. Many of these diseases are models of diseases of people with valuable research potential. Hence, a veterinary school serves as an effective screening mechanism to discover and characterize models of disease in all kinds of animals that might be valuable research tools.

Members of the faculty of our School have discovered or made significant contributions to the understanding of over 40 animal disease models of important diseases of people. I would like to tell you a little bit about three of them.

1. *Emphysema*.—Emphysema is a severe, progressively disabling disease of people. The incidence is high in the U.S. and is becoming higher at a rapid rate. In a recent year one of every 14 citizens receiving total disability payments from social security had emphysema. A similar disease also occurs in horses. A team of researchers composed of D.V.M.'s, M.D.'s, and other health scientists initiated studies on emphysema in the horse in our School 5 years ago. This team has succeeded in reproducing emphysema in the horse, thus, for the first time, medical science has been provided with an experimental system in which to study cause, prevention and treatment of emphysema. The group, headed by Dr. Walter Tyler of the School of Veterinary Medicine, now is determining the role of air pollutants and other agents as possible causative factors of emphysema. Their results will apply both to people and animals.

This important progress was made possible only because a veterinary and human medical research team together attacked an important human health problem.

2. *Leukemia*.—Leukemia is one of man's most feared diseases. How would any of us in this room today react to the knowledge that one of our loved ones had this highly fatal disease? How many people know that nearly everything known about the cause, spread, and possible means of prevention of leukemia has been learned from studies on leukemia in animals? The most promising research on leukemia in the world today is being conducted on naturally occurring disease in mice, cattle, cats, and dogs. We know that leukemia in the mouse is caused by a virus and have obtained excellent leads on how it is spread in cattle.

Where would we be in leukemia research today but for these animal disease models? We probably would not have the foggiest notion of the nature of the disease and indeed might not have much of an idea about how to find out.

If leukemia is ever brought under control, and we are confident that it will be, much will be owed to the animal disease researchers who discovered the models and have conducted research on them.

3. *Liver Disease in Man and Sheep*.—Exciting progress is being made in understanding perplexing liver disease in people as a result of the discovery by veterinarians in sheep of two diseases caused by liver function defects. One of these liver diseases in sheep is identical to Dubin-Johnson syndrome in man. Together they have provided medical science with its best "models" for understanding liver function in health and disease. Dr. Cornelius, formerly of our School and now Dean of the Kansas State University College of Veterinary Medicine, and Dr. Arias of the Albert Einstein School of Medicine are working together on this problem.

NEW SCHOOL OF MEDICINE AT U.C.D.

Recognizing the important role that veterinary medicine plays in medical research and its potential for contribution to medical teaching, the University of California is establishing a new School of Medicine in close proximity to the new facility that is being constructed for its expanding School of Veterinary Medicine. Although these two Schools will be maintained as separate academic units, they will be closely related physically and functionally. The Schools of Medicine and Veterinary Medicine will constitute the initial developments in the Campus Health Sciences Complex. The Veterinary Medical Teaching Hospital will be located on one end of this complex and the Human Medical Teaching Hospital on the other. The facility to house the faculty and students of the two Schools will be located between them. Maximum sharing of facilities is contemplated. Many members will have appointments in both Schools. Our objective is to attain the maximum productive interaction between these two kinds of medical schools without forcing abnormal relationships that might hinder cooperative teaching and research ventures. We are highly enthused about the prospects of developing exceedingly strong programs in both Schools.

Dr. PRITCHARD. I will comment briefly on some of the points that I have tried to make in my statement.

My statement deals with the ways veterinary medicine contributes to human health through research.

Veterinary medicine, as we have been told this morning, is the branch of medicine that deals with diseases of animals. Veterinarians apply the principles of medical science to alleviate pain and suffering in man's animals. Veterinarians also contribute to the body of knowledge through research and practice. The same principles are involved in veterinary medicine as are involved in the human medicine.

The whole program—and I want to emphasize this, of improving medical services of the Nation, that was brought out in the letter this morning, depends on constantly improving methods of treatment, diagnosis, and understanding of disease.

The point I wish to make very clear is, that the veterinarian contributes to these better methods of providing medical services as effectively, and perhaps more so than some other kinds of medical personnel.

I will use two examples.

One is the first example given in my written statement and involves an important cattle disease. I use this particular example only because it is the first of a group of seven and for no other reason.

From the time of the Pilgrims until about 1900, there was in the United States a very important cattle disease that limited cattle production, particularly in the South and in the Southwest. Cattle could not be raised efficiently because of the disease, Texas fever. Periodically the disease extended into the North—New England, the Central States, and elsewhere, creating havoc with the livestock industry.

A team of veterinarians conducting research on this disease finally discovered that a tick, the Texas fever tick, was responsible for the

spread of this disease. The reason that they conducted their experiments was to improve livestock production. But in discovering that an insect could spread a disease, they made a tremendous contribution to human health.

Dr. Pearson, writing in 1927, pointed out that "research in the veterinary field made the Panama Canal possible."

Dr. Simon Flexner, at the same time, pointed out that the path was shown by the good work of veterinarians doing veterinary work in eradicating Texas fever for the important advances in yellow fever control of that era. "Except for this work, our knowledge of yellow fever would in all likelihood have been delayed."

I want to emphasize that this was a veterinary problem, research was conducted to help the cattle industry but the results, the concepts, that came from it were applicable to all of medicine, all of science, and in the long run it was the people of this Nation that benefited more than the cattle population.

I would like now to turn to page 3 in my prepared statement to show another way that veterinary medical research has contributed to human health.

It has become apparent that for nearly every disease of people there is a similar or identical disease in some species of animal. This animal may be a dog or cat, may be a mouse, may be a horse, rabbit, turkey, sheep, cow, deer, primate, or even a fish. Many of these animal disease models are far better suited for studies of the nature of the disease and the means to prevent or treat it than are sick people. Because in many instances, we cannot conduct research on sick people, but we can on animals. Consequently research in these diseases contributes directly to the health and well-being of people by increasing our knowledge of the diseases and disease processes which can be applied to man. These animal disease models are becoming far more important today when the most important diseases of people are the chronic and debilitating diseases such as cancer, stroke, emphysema, heart disease—that are almost impossible to reproduce in animals. They do occur in animals, and these animals can be used for research on the principles of treatment and control of these diseases.

Consequently, the veterinarian makes a very direct contribution to human health by studying these diseases and developing principles that will apply to the control of the disease in the people as well as animals.

I want to point to a specific example. I have it listed on page 4. I refer to the disease emphysema, which is a severe, progressively disabling disease of people. The incidence is high in the United States, and it is becoming higher at a rapid rate.

In a recent year 1 of every 14 citizens receiving total disability payments from Social Security had emphysema. A similar disease also occurs in horses.

A team of researchers composed of veterinarians from our school as well as M.D.'s and other health scientists initiated studies on emphysema 5 years ago exploiting the fact that the horse develops emphysema naturally. This team has succeeded in reproducing emphysema in the horse and thus for the first time medical science has been provided with experimental systems in which to study emphysema.

Now, studies on cause, prevention, and treatment of emphysema can be conducted. The group, headed by Dr. Walter Tyler, of the school of veterinary medicine, is now determining the role of air pollutants and other agents as possible causative factors of emphysema. Their results will apply both to people and animals.

Other examples are given in my statement. I have included pictures of children with leukemia, and calves with leukemia. (Photographs referred to will be found in committee files.) Much of the progress that has been made in understanding leukemia has come from animal studies.

Finally, I would like to elaborate a little on the statement made by Congressman Leggett this morning that the schools of medicine and veterinary medicine at Davis will be closely related.

Our university, recognizing the important role that veterinary medicine plays in medical research and teaching, is establishing a new school of human medicine in close proximity, physically, to the new facilities being constructed for our school of veterinary medicine. Although these two schools will be maintained as separate academic entities, they will be related as closely as possible.

With your permission, Mr. Chairman, I would like to use a chart to show you how these two schools will be related.

(Whereupon Dr. Pitchard approached an artist's rendition and used it to explain his following comments to the committee.)

Dr. PRITCHARD. You see here the new health science complex at the University of California, at Davis. In the foreground is the Veterinary Medical Teaching Hospital. In the background is the Human Medical Teaching Hospital. Between these two hospitals is located a medical sciences building which will house the faculty and most of the students for the school of medicine and the school of veterinary medicine.

I have colored in gray the portion of this building devoted to human medicine and the portion devoted to veterinary medicine. About the same amount of space will be devoted to each school. Some members of the faculty of the school of veterinary medicine also will hold appointments in the school of human medicine and vice versa.

We expect that about 50 percent of the faculty will participate in the programs of both schools.

There will be considerable sharing of facilities—classrooms, seminar rooms, library, and instructional facilities of all kinds. They will not be needlessly duplicated but will be available for use by both schools.

The veterinary medical teaching hospital will add a unique dimension to this medical program because veterinarians from all over the West refer animal patients to the hospital for intensive studies. The veterinary clinician working here will identify many important models of human diseases that then will be available to the medical center for research. They will be available to the basic scientists in veterinary medicine and human medicine as well as to the veterinary clinicians. On the other extreme we have human clinically oriented scientists to bring their unique inputs to the program. We will coordinate our programs as closely as possible in order to really exploit the unique advantage to medical education of a veterinary school and then, on the other hand, exploit the unique contributions of the medical school

to veterinary education. We can do far more and do it more effectively working together than could be done by either school alone.

Thank you very much.

Mr. JARMAN. Does that conclude your statement?

Dr. PRITCHARD. That concludes my statement.

Mr. JARMAN. May I ask one question? You referred to emphysema and the testing of the disease—the disease in horses. How do you induce the disease in a horse?

Dr. PRITCHARD. Emphysema in horses has been reproduced by interference with the blood supply to the lung by various means. By partially restricting this blood supply emphysema results.

And Mr. Chairman, I believe Congressman Nelsen was not here when I mentioned that this disease occurs in horses. This is heaves in horses.

Mr. JARMAN. Thank you very much, Dean Pritchard. Any questions?

Mr. MACKAY. Thank you, Mr. Chairman.

Dr. Pritchard, I think the testimony that you brought before this Committee is of enormous value to us in understanding the issue that is involved here. I want to reiterate my plea that those of you who are pressing passage of this bill help us develop a better understanding in the Executive Department as well as in the legislative branch. I think we all have a tendency to stereotype our view of a profession because of one expression of it we may have seen about 20 years before. I want to compliment you on the health sciences complex you have developed. We do not have enough dollars to go around therefore we must use these dollars more efficiently. We have been considering the role of the junior colleges in training allied health professions and it appears we are not using resources that we have. I thank you for this very helpful testimony. Which should be widely disseminated and widely known. Do you happen to know whether the Rh factor—whether veterinary medicine participated in any of that research? Are you familiar with that?

Dr. PRITCHARD. Yes, Mr. Chairman, if I may call on Dr. Cornelius to respond.

Dr. Cornelius is the new dean of the school of veterinary medicine at Kansas State University. He is an expert on these matters and perhaps he could comment on the Rh factor.

Dr. CORNELIUS. Much of the original research done on Rh factor ran parallel with the work done on horses. I am not able to say which came first, but much of the basic work has been done in horses as has been done in humans where we could make a fantastic number of experiments and answer many questions we never could have got at through the human experiment model.

Mr. MACKAY. No further questions.

Mr. JARMAN. Mr. Nelson?

Mr. NELSON. No questions.

Mr. JARMAN. Mr. Rogers?

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

In the courses that you will teach at your complex, do you have courses designed to instruct those who would be veterinarians in specific areas of care of animals, laboratory animals, and so forth?

Dr. PRITCHARD. I believe we have one of the largest programs in the country in training specialists in laboratory animal medicine.

Mr. ROGERS of Florida. And how to conduct laboratory and maintain the animals and this sort of thing?

Dr. PRITCHARD. Yes. We think this is very important.

Mr. ROGERS of Florida. This is going to be a great need that can be pointed out very definitely because I think the Congress is on the verge very shortly of taking some action in this area which will put a greater demand now on your profession to supply needed personnel in even greater numbers than are presently required. I would think that this would be an area that will develop as legislation in other areas are passed as well.

How many schools of veterinary medicine are there in the United States?

Dr. PRITCHARD. There are 18.

Mr. ROGERS of Florida. How many students are graduated per year, approximately?

Dr. PRITCHARD. Approximately 870. A few more occasionally.

Mr. ROGERS of Florida. This may have been given. I am sorry I was not here this morning. What is the projected need? Do you have a projected need over the next 10 years?

Dr. PRITCHARD. The need for the veterinarians has been predicted many times recently. I think Dean Brandley's summary is the best. He has indicated that all of the present schools must double their enrollment by 1980 and five new schools of the same size must be established by then if we are going to keep up with the expanding population and the expanding need for veterinarians.

Mr. ROGERS of Florida. Do you think this proposed legislation is a sufficient approach to handle the problem?

Dr. PRITCHARD. I think the proposed legislation will go a long, long way. I am not sure, however, that it will be enough. I think only experience with it for a few years will be able to tell us this.

Mr. ROGERS of Florida. Thank you very much.

Mr. JARMAN. Doctor, one question. I know it has been said it takes about 7 years as I understand to train a doctor in veterinary medicine.

Dr. PRITCHARD. Yes, sir.

Mr. JARMAN. That involves what—a 3-year premed course that is comparable to the course that an M.D. gets, or what?

Dr. PRITCHARD. All of our schools of veterinary medicine require a minimum of 2 years of preveterinary medicine. This involves courses in the arts of sciences humanities similar to those that medical—that premedical students take. In practice, however, and I can speak specifically only of our own school—our students average just a trifle under 4 years of preveterinary medicine. Many have completed their baccalaureate degrees in zoology or in the natural sciences or in animal husbandry or some other area before they come to us for an additional 4 years in the professional school.

I believe it is the trend nationwide for nearly 4 years of preveterinary medicine to be required.

Mr. JARMAN. Thank you very much for being with us today.

Dr. PRITCHARD. Thank you.

Mr. JARMAN. Our next witness is Dr. Alvin A. Price, Dean, College of Veterinary Medicine, Texas A. & M. University.

Dr. Price.

STATEMENT OF ALVIN A. PRICE, DEAN, COLLEGE OF VETERINARY
MEDICINE, TEXAS A. & M. UNIVERSITY

Dr. PRICE. Mr. Chairman and members of the committee, I am A. A. Price, dean of the College of Veterinary Medicine at Texas A. & M. University.

It has been appropriately said on several occasions this morning and very adequately, I think, that man does not live alone. From the beginning of history right on down to the present day he has been linked inseparably with lower forms of plant and animal life.

Now, recognition of this intimate relationship has been acknowledged many times, but never has the closeness and significance of this relationship been perceived more clearly than it is today. In man's role of dominion over the beasts of the fields, he has worshiped them, hunted them, tamed them, worked them, and used their flesh and by-products for food, clothing, shelter, and fuel.

Since man has depended upon animals for food, clothing, shelter, transportation, recreation and companionship, animal diseases and death losses have resulted many times in malnutrition, misery, disease, and death of man himself.

The importance of animal health to man becomes very real when consideration is given to the uncountable days of human misery, the staggering toll of deaths, and the immeasurable bereavement and emotional chaos and panic which has resulted from human epidemics and starvation traceable to animal life and the lack of animal life.

Consider the times bubonic plague has struck with devastating results; starvation in the wake of rinderpest; the millions dead from typhus; the results of anthrax in Greece, Rome, and Spain; and the millions lost to influenza during the early part of this century.

The great animal plagues of past centuries helped shape the course of world history. Those plagues and the animal diseases which are with us today have been, and continue to be, one of man's great frontiers.

Plagues, pestilence, and famines are virtually unknown to most Americans today. Yes, on every continent of this earth there exists vast reservoirs of animal pathogens capable of breaking into sweeping epidemics should the host-parasite-environment relationship be disturbed. Serious diseases have recently spread to new countries. African horse sickness has spread to 11 countries of the Middle East, killing over 300,000 horses. African swine fever has killed over 3 million swine in Spain, Portugal, and France. Bluetongue, scrapie, Newcastle disease, swine encephalitis, mucus disease, and equine piroplasmiasis have spread to the United States.

It was said earlier this morning that about one-half of the world suffers from protein starvation or from insufficient amounts of protein. This is because animal diseases cause loss of meat, milk, and eggs.

In the United States alone there is an annual loss of \$2.7 billion due to animal diseases and deaths. This is a country which produces one-third of the world's red meat and one-fourth of the world's milk supply.

The great potential grazing areas of east and central Africa are unknown as animal protein food-producing areas because of rinder-

pest, trypanosomiasis, and other destructive diseases. This area alone could produce enough meat to provide adequate animal proteins for the whole of Africa, Europe, and part of Asia. Mastitis in Europe causes the loss of enough milk to provide 30 million babies a pint of milk per day. Foot-and-mouth disease in Argentina and Uruguay prevents development of vast animal resources for human food. If animal diseases in the United States were eliminated, this country could feed an additional 100 million people without increasing the number of breeding animals maintained on the farms and ranches. In spite of our staggering losses, this country is the safest in the world for investing in and rearing livestock because the veterinary profession provides safeguards to the health and productivity of our \$50 billion livestock industry.

Today it is estimated that we have about 8,500 veterinarians to care for the Nation's farm animals. This amounts to about a \$6 million industry under the health care of each on the average. These veterinarians represent 35 percent of the Nation's trained veterinary medical manpower and the percentage is decreasing as other challenging opportunities develop. Only 33 percent of the graduates in my State over the 20-year period of 1944-63 is engaged in general practice in Texas.

This Nation has a shortage of veterinarians. The percentage engaged in livestock health care is declining. The need and demand for increased livestock production is evident if this country reaches the population estimate of 275 million people by 1985. If the needed veterinary manpower is not made available, many Americans may face a meatless tomorrow and experience the protein privation suffered by millions in other lands today.

Veterinary medical education is a national resource. The 17 States having colleges of veterinary medicine cannot be expected to carry the full load of training of the needed manpower. Therefore, veterinary medical training is a national matter, deserving of national attention through passage of the Veterinary Medical Facilities Construction Act.

Thank you, Mr. Chairman.

Mr. JARMAN. Thank you, Dean Price. Are there any questions?

Mr. ROGERS of Florida. What use would you personally expect to make of this legislation if passed, in Texas?

Dr. PRICE. Expansions of enrollment to be made possible through an additional facility that could be made available to us.

Mr. ROGERS of Florida. Have you more applications of students than you can take care of in your school?

Dr. PRICE. We had 303 applications last year from which we selected 128 students. That is 42 percent of those who were qualified were selected.

The year previous to that we took 33 percent of the total qualified applicants. We are in the process at the present time of making selections for this coming September. At the time I had left College Station, we had already received 50 applications more than we had received last year.

Mr. ROGERS of Florida. Do you think this would be the pattern generally with the schools of veterinary medicine?

Dr. PRICE. In general, this is the case. There are many more applications across the country than veterinary colleges are able to admit.

Mr. ROGERS of Florida. You would like to be able to increase your own facilities in your own school which would allow you to take more students?

Dr. PRICE. This is correct; yes, sir.

Mr. ROGERS of Florida. How many more students would you envision taking?

Dr. PRICE. We are already in the process of this increased enrollment. In 1963 and years previous to that for about 15 years we had taken 64 students per class. In 1964, fall of 1964, we increased to 96. In the fall of 1965 we increased to 128. This is based upon the hope that we can have some relief in the building of facilities to adequately house this number of students.

I would like to testify to you here now, without these additional facilities, our standards, handling 128 students will definitely suffer.

Mr. ROGERS of Florida. I am very much impressed with your figures because when we went into the Medical Education Assistance Act, the Professions Act, the schools were shocked that we would want them to add even two and a half or three students to the student body if they expected to get money to increase their buildings and so forth. So I think it is encouraging to know that you have already started in your school a program of increasing your enrollment each year. It would certainly be an important element in passing this legislation, that the schools themselves would assume the responsibility of definitely increasing their student body with a sizable number or numbers.

Dr. PRICE. Our problem at the present time is that we are ahead of the building schedule.

Mr. ROGERS of Florida. I understand. Thank you.

Mr. JARMAN. Mr. Nelsen?

Mr. NELSEN. I note in your testimony that only 33 percent of the graduates in my State over the 20-year period, 1944 to 1963 are engaged in general practice in Texas. What seems to be the trend? Where are they going if they are not to general practice? What are they doing?

Dr. PRICE. Mr. Nelsen, there are many opportunities as we all know, outside of practice, that are beginning to develop and this is what is creating one of the big problems as far as animal health on farms and ranches are concerned, because in the area of laboratory animal medicine, research, public health, other areas into which veterinarians are being channeled is causing a decrease in the percentage they are actually engaged in farm and ranch animal practice and this is the trend we see in the State of Texas that we have a decrease in percentage actually going into rural type practices or general practice.

Mr. NELSEN. We find a great number going into pet hospitals, do we not? Do you have any idea how many or what percentage of veterinarians set up a pet hospital which seems to be a very lucrative business?

Dr. PRICE. The number that—or entering pet animal practice has been on the increase. The figures in my State is 11 percent during this 20-year period. Where we had 33 in general practice, 11 percent in small animal practice.

Mr. NELSEN. In the field of medicine we have even suggested language of our legislation, to encourage practice in rural areas. Maybe we will have to do that with the veterinary medicine, also. Thank you. No more questions.

Mr. MACKAY. In the discussion of education for human medicine we learned of the influx of professionally trained people from other countries. Is this happening in your field, too?

Dr. PRICE. Dr. Kohler, who is here, could probably speak to this much better than I in that he has been working with a number of refugee veterinarians from Cuba, and he has become acutely aware of this situation.

The major thing we are experiencing in my school is the requests we have for foreign students to come and study veterinarian medicine in this country which we have not been able to really accommodate because of the pressing demands of our own people within the State.

Mr. MACKAY. The passage of this bill will help us to train people around the world.

Dr. PRICE. Sure would.

Mr. MACKAY. I want to compliment the literary quality of your testimony. I thought it was a very good statement. Thank you, Mr. Chairman.

Mr. JARMAN. Thank you for being with us, Dr. Price.

Our next witness is Dr. Leo J. Meyer, D.V.M., of Martinsburg, W. Va.

Dr. Meyer.

STATEMENT OF LEO J. MEYER, D.V.M., MARTINSBURG, W. VA.

Dr. MEYER. I am Leo J. Meyer, a general practitioner at Martinsburg, W. Va.

I heard of this meeting and wrote to Congressman Staggers and he suggested that I come down and give my viewpoint.

Mine is a little different from what we have heard so far.

I know, while it is true that almost all competent veterinarians who establish a new practice soon have an adequate clientele, it is also true that very few veterinarian practitioners are so busy that they must turn away potential clients who come to them for help.

I feel that a much greater use of technicians in the veterinary field would be a better solution to the problem of shortage of veterinarians where it does exist. As an example, the taking of blood samples from cattle for the brucellosis eradication program in many States was done exclusively by veterinarians, while in West Virginia where veterinarians were not always available, unskilled men were hired and after being trained by State and Federal Government were able to take blood samples from cattle very satisfactorily. Technicians take blood samples from humans and likewise it does not require a graduate veterinarian to take blood from animals.

Another example is the artificial insemination of cattle. I have heard many veterinarians, including the present president of the American Veterinary Medical Association, state that graduate veterinarians lost this work because they were not available to do it. I strongly feel that trained technicians can usually do this work more efficiently and economically than graduate veterinarians.

Still another example is the diagnosis of pregnancy in animals. Some State veterinary associations are attempting to use their State veterinary practice act to prevent technicians from performing the diagnosis of this physiological condition (not a disease condition). I feel that technicians can often perform this work more economically than veterinarians.

Another example is the taking of milk samples from cattle for diagnosis of mastitis or of low-quality milk. Articles have been published stating that technicians are doing this satisfactorily in California but attempts have been made to curtail it by applying the State veterinary practice act.

Also, many articles have recently been published in the veterinary journals regarding the training of veterinary technicians to do much of the work in small-animal hospitals. The articles usually state that the program is working satisfactorily. At present, many procedures which would be done in a human hospital by a technician are being done in a veterinary hospital by a veterinarian.

In the large-animal field again, articles have been published stating how veterinarians have trained their farmer clients to perform many of the injections and procedures previously done by the veterinarian. Many large successful farmers almost never call a practicing veterinarian and I believe this trend is on the increase. State and Federal experiment stations provide these farmers with diagnostic services to some extent. Some drug companies also provide diagnostic services which range in quality from poor to excellent, some of the latter have been curtailed by application of various State veterinary practice acts in a manner which, if I were a farmer, I would object to.

Many veterinarians, including myself, have not encouraged this farmer treatment because there are enough graduate veterinarians in our areas to supply the services our clients request, but if my clients should not be able to get help from a veterinarian, I think that I could often advise them how to help themselves. I can rationalize my actions in this by the knowledge that there are some advantages to the animal-owning public in having several veterinarians in their area.

I understand that many of the unfilled positions for veterinarians are in the meat inspection field and I believe here again that technicians could be trained to do much of this work under the supervision of a veterinarian.

I do feel that there is a great need for more graduate veterinarians to continue their studies in specialized fields. I doubt whether this would require any additional construction of schools, but it would require an attempt to select students for veterinary school who would be motivated to continue their education beyond their D.V.M. degree.

I have here the last issue of *Modern Veterinary Practice*. It is one of the four main veterinary journals in the United States. There are three items in this issue which bear out my contention that technicians can do much of the work sometimes done by veterinarians. In the editorial on page 14 it states how cowboys do much of their own work in feedlot operations, and the lead article, which is on feedlot operations, states how little veterinarians are used in the feedlots, although some veterinarians are very helpful.

Some feedlots do not use private veterinarian services.

Then here on page 88 there is a small article saying how Feedlot magazine gave awards to the two top national beef feeders and the awards commented on their operations, but it says at no time in any way are veterinary services mentioned.

I feel that this shortage of veterinarians is overemphasized, especially in the practicing field, because it seldom is difficult to get the services of a veterinarian during his regular office hours. And as for some veterinarians objecting to the farmer treating his own animal, even a mother often gives her precious baby an aspirin or something before she calls a doctor. So I feel that a farmer can often treat his own animal if it is a common condition. Dean Krill stated that in a poll the veterinarians objected to use of technicians, they would rather have veterinarians do all the work that technicians sometimes do, and his thinking was that enough veterinarians should be trained to do all these procedures such as bleeding of cattle. At least I took him to mean that.

But I am sure it is more economical to train technicians to do that.

If you ask the average farmer what he needs in the line of veterinary services, I think he would usually say that he can use more instruction in self-help than more veterinarians in this area. That is my feeling on that.

Dean Holm stated that he thought more postdoctoral education was needed and I agree with him there.

I made a note that the dean from Kansas talked about a new treatment for bloat which will save millions of dollars. But, of course, it will have to be used before it can save that and there will still be a large loss from bloat, I imagine.

That is all I have to present, Mr. Chairman.

Mr. JARMAN. Do I understand, then, that you take the position that we should have more trained technicians and that if we had the trained technicians, the present facilities and number of veterinarians would be adequate for the needs of the country?

Dr. MEYER. Yes.

Mr. JARMAN. Thus, you are in opposition to the bill?

Dr. MEYER. I do not think it is necessary at this time. I would agree with Wilbur Cohen—it is more important to have more human medical facilities constructed at this time. I do not feel that it is imperative to have more veterinary educational facilities at this time.

Mr. JARMAN. In terms of the projected increase in population of our country and the projected need for more veterinarians in the country to take care of that population?

Dr. MEYER. As this article in *Modern Veterinary Practice* indicates, the big feedlots use very little veterinary service and in my practice, some large successful farms very seldom call a veterinarian.

Mr. JARMAN. You feel we need more technicians?

Dr. MEYER. I feel it is a great waste to train enough veterinarians to do procedures such as taking blood samples from cattle.

Mr. JARMAN. How are technicians trained? Where does that supply come from?

Dr. MEYER. They go around with the veterinarian and he trains them.

Mr. JARMAN. Trained by the veterinarian himself?

Dr. MEYER. Usually. I believe that is the way they did it in West Virginia when they found they did not have enough veterinarians to take blood samples from all the cattle—they hired some rural people and trained them.

Mr. JARMAN. Mr. Rogers?

Mr. ROGERS of Florida. It is interesting to hear a different viewpoint, Doctor. We do not often hear viewpoints like that in Washington. You feel we have enough of everything already.

In your practice do you use technicians in your office?

Dr. MEYER. I am a poor employer, I like to do everything myself. But we have enough veterinarians in my area that I am able to do that. I think the farmer and a pet owner can always get a veterinarian, at least during office hours in my area.

Mr. ROGERS of Florida. Where were you trained, Doctor?

Dr. MEYERS. Washington State College.

Mr. ROGERS of Florida. Do you disagree with the projections of the need for veterinarians that have been furnished the committee?

Dr. MEYERS. By all means. Because, as I stated, these big feedlot operators, who produce such a high percentage of food compared to small farmers, do not use much veterinary service. My best clients are farmers who work in a factory and have a few stock on the side—they have so few they do not have time to learn to do their own procedures.

Mr. ROGERS of Florida. Have you made any study of the projections yourself?

Dr. MEYER. No; but I really cannot see how the number of veterinarians will be less in 1980 than now. The veterinarians who are living in 1980—that are active—will all have been graduated since 1940, and since 1940 the number of graduates has gone up every year.

Mr. ROGERS of Florida. Our population is increasing at $3\frac{1}{2}$ or 4 million people a year. Perhaps this is part of the projection.

Dr. MEYER. Maybe they take that into consideration.

Mr. ROGERS of Florida. I think so.

What would you have a veterinarian do? It seems to me you would have technicians do most of the things. What would you have the veterinarians do?

Dr. MEYER. I would have the veterinarians continue to do as at present—diagnosing and treating conditions of animals and making suggestions to owners of animals as to how they may improve the health of their animals. If the predicted shortage of veterinarians should develop, I think the veterinarian could increase his usefulness by greater use of technicians and by training the animal owner to care for some conditions of his animals.

Mr. ROGERS of Florida. What does your practice concern mostly, diagnosing the animals?

Dr. MEYER. In my area we have had adequate numbers of veterinarians so we have not encouraged farmer treatment. But in some areas the veterinarian in practice has trained his clients to treat their own animals, and there are articles published on that.

Mr. ROGERS of Florida. I would think that you would have to be in very short supply for a doctor to go out to train owners of animals to treat the animals themselves—very short.

Dr. MEYER. If they are as short as all the other witnesses said, if there is going to be a 50-percent shortage in 1980, and there is a great shortage now, if the shortage is that great, the veterinarian might best go out and teach his client.

Mr. ROGERS of Florida. You think that would be a sufficient solution to the problem, to teach the owner what to do? Could he diagnose?

Dr. MEYER. He can, in some cases. He will sometimes run into trouble where he would need assistance from a veterinarian.

Mr. ROGERS of Florida. How do these schools keep going if there is no demand for the services?

Dr. MEYER. There is a demand. I am very busy in my practice. I could, I believe, handle a larger area if the shortage becomes acute—I believe I can help out by teaching some of my clients to treat their own animals.

Mr. ROGERS of Florida. Well, now, we just heard testimony that a school has only been able to take a third of the number of students who applied who wanted to become veterinarians because of lack of facilities. Would you deny these young people the right to go into this area?

Dr. MEYER. I do not like to deny anybody the right, because it has been an interesting and rewarding profession for me. But we will not be doing them a favor if we put them in a profession where he is not needed, if it is not going to be a profitable position for him.

Mr. ROGERS of Florida. I do not think that has been established. The contrary has been shown to be a need. I believe yours is the first testimony to say otherwise.

Dr. MEYER. I have been the first practitioner who testified.

Mr. ROGERS of Florida. I thought most of these people practiced in some area. Some of them are school people but I thought they practiced, often, too.

Dr. MEYER. You will not find many veterinarians who have to turn down clients.

Mr. ROGERS of Florida. Do you treat many private pets, as such, in West Virginia?

Dr. MEYER. Yes; some veterinarians do, but my practice is limited on that.

Mr. ROGERS of Florida. For instance, in my area, in Palm Beach, this is a very heavy practice. Not very many in the cattle area right around the city, you see. How large is Martinsburg, W. Va.?

Dr. MEYER. 15,000. I have a colleague who has a small-animal hospital, and I just have an office.

Mr. ROGERS of Florida. How many veterinarians are there in your community?

Dr. MEYER. Three. We service Berkeley County and part of Jefferson and Morgan Counties.

Mr. ROGERS of Florida. What would be the cattle population of that area you are treating?

Dr. MEYER. I don't believe I can tell you that. The human population would be around 40,000.

Mr. ROGERS of Florida. You do not know how many animals?

Dr. MEYER. I could not give you that.

Mr. ROGERS of Florida. I think you have different problems in different areas. Where you have urban areas you have an emphasis on

the treatment of pets. People become very emotional about it, and they don't want to have a technician treating them. They want a doctor. What would you do in this instance?

Dr. MEYER. Evidently the veterinarians referred to by Dean Krill in a poll indicated they wanted to do all the work themselves, even such procedures as cleaning dogs' teeth. I feel a technician should do this.

Mr. ROGERS of Florida. Suppose the owner wants it done? He is willing to pay for it.

Dr. MEYER. It isn't a national emergency that we have more veterinary schools to provide that.

Mr. ROGERS of Florida. That is not going to be the only thing he is going to do. Some people may want that service, and if they are willing to pay for it, it helps a man make a living.

Dr. MEYER. Yes.

Mr. ROGERS of Texas. It just seems to me that we have to look at it in other than just our own community. The problem may exist where you have an overage of veterinarians in one area. It may be that in some areas we have a drastic shortage. I have not done a particular survey for I do not think it can be done in my particular area. But all the veterinarians I know of are very, very busy and I assume that when we have a new one come in there is no difficulty of his making a living.

Dr. MEYER. You are right. But there is an almost unlimited amount of work that can be done on a sick animal if there are lots of veterinarians—just like with humans—a lot of humans in distress could probably be helped by going to the Mayo Clinic for intensive treatment by specialists.

Mr. ROGERS of Florida. A lot of people feel as strongly about their animals as they do themselves. I am sure you have dealt with that. I am sure you have great compassion for them or you would not be in this profession.

Dr. MEYER. I have clients who have had an old dog for many years and I know they want me to tell them it should be put to sleep but I will not take this responsibility. As the dog lives on, it is really a problem sometimes for the owner.

Mr. ROGERS of Florida. I think they are great problems. Of course, we are all so much concerned with the research that goes on with animals. It is a problem that I think has to be met, too. I think we will probably be putting more and more emphasis on research with animals in the future, do you not?

Dr. MEYER. Yes, I do. And as I mentioned, I think more post-graduate work should be accomplished.

Mr. ROGERS. Which could be carried on at these schools, I presume?

Dr. MEYER. Yes.

Mr. ROGERS of Florida. Thank you very much.

Mr. JARMAN. Mr. Mackay?

Mr. MACKAY. This is the most refreshing testimony that I have heard before this committee in a long time. In fact, I have not had an experience quite like it since a man came to me to oppose a school bond issue because he was tired of school bond issues. He said we ought to quit building schools because we have too many children. There are 50 million more people in this country than when I got out of World War II. You do not dispute that, do you? And we expect 50 million more people in the next 20 years.

Dr. MEYER. Yes.

Mr. MACKAY. Not increasing the quality or kind of education that you now have in this field, it will take larger plants to education—just to hold our own—will you agree to that?

Dr. MEYER. For meat, milk and animal products, we can produce much more per veterinarian than we do now. For other fields of veterinary medicine it will require more.

Mr. MACKAY. I would like for you to level with me. Is your objection really to the method of financing—or is it the fact that the Federal Government gets into the act?

Dr. MEYER. Some veterinarians want to keep things like bleeding cattle, taking blood samples—and artificial breeding of animals.

Mr. MACKAY. Let me put it this way. If you were satisfied there was a need, do you oppose the Federal-grant-in-aid approach?

Dr. MEYER. No, I don't oppose that.

Mr. MACKAY. You are not opposed to that in principle?

Dr. MEYER. Not if it is needed.

Mr. MACKAY. You are attacking your own profession for selling subprofessional services; is that not what you are really saying?

Dr. MEYER. Well, I am not really attacking my profession, but I am saying that some things we do could be done more economically by a technician. I like to have things done the most economical way where the same results can be obtained.

Mr. MACKAY. One other question. I understood the testimony is that about one-third of those who graduated from the schools of veterinary medicine go into practice? Is that right?

Dr. MEYER. I thought it was more than that, but possibly so; I was surprised of Dean Holm saying 57 percent of his graduates went into public veterinary medicine plus what go to the U.S. Department of Agriculture—that would leave about one-third for private practice. In my day there were a lot more.

Mr. MACKAY. You heard the testimony that there are three or four jobs available to every graduate. Do you question the validity of this demand?

Dr. MEYER. I do not think there would be that many satisfactory jobs. If a new graduate had the qualifications, there would be an unlimited number of job openings but many positions require experience or more training.

Mr. MACKAY. Are you making an economic argument that this will downgrade the economic reward of being a veterinarian, a doctor of veterinary medicine?

Dr. MEYER. I believe so.

Mr. MACKAY. That is the basis of your argument?

Dr. MEYER. My argument—my feeling is that the profession would be more rewarding—if we do only work which requires a veterinarian to do, rather than doing work which could just as well be done by a technician trained in that one procedure.

Mr. MACKAY. I have no further questions, but I want to thank you for coming over because, as I said, it is always refreshing to hear from someone who just comes and speaks for himself. It is helpful to hear from you.

Mr. JARMAN. Thank you, Doctor, for being with us.

Our next witness is Dr. G. T. Edds, chairman, Department of Veterinary Science, University of Florida, Gainesville, Fla. Dr. Edds?

STATEMENT OF DR. G. T. EDDS, CHAIRMAN, DEPARTMENT OF VETERINARY SCIENCE, UNIVERSITY OF FLORIDA, GAINESVILLE, FLA.

Dr. EDDS. I am George T. Edds, Gainesville, Fla. I do have a statement that I would like to introduce into the record if it is permissible.

Mr. JARMAN. It will be included in the record.

(The prepared statement of Dr. Edds follows:)

STATEMENT OF DR. G. T. EDDS, CHAIRMAN, DEPARTMENT OF VETERINARY SCIENCE, UNIVERSITY OF FLORIDA, GAINESVILLE, FLA.

VETERINARY MEDICINE

The basic concern of veterinary medicine is the protection and improvement of the health and economic welfare of our nation.

Veterinary medical science has made American livestock the healthiest and most productive in the world. Veterinarians caring for the health needs of farm animals assure the nation of a plentiful and wholesome supply of protein foods. By eradicating major livestock diseases many of which, such as tuberculosis and brucellosis, are communicable to man, they have freed this country from ages-old threats to rural health.

The promotion of human well-being, and the prevention of human misery caused by diseases and unwholesome environment, is the ultimate concern also of the veterinary officer in the Armed Forces, of the veterinarian inspecting animals and food products imported from foreign countries, of the veterinarian engaged in the production and evaluation of drugs and pharmaceuticals, of the veterinarian active on the rural or urban public health team, and of the veterinarian responsible for the wholesomeness of milk, meat, and food products of animal origin.

The rapidly expanding role of veterinary medicine in the total national effort to eradicate our society's major physical, mental, and environmental health threats has contributed to making an already existing shortage of veterinarians in the profession's traditional endeavors more pressing and more acute.

American colleges and universities at present are graduating approximately 880 veterinarians annually. Approximately 525 veterinarians are leaving the profession each year due to death or retirement. Unless student enrollment in veterinary medical schools increases substantially, established needs for veterinary services cannot be met and the nation will face, by 1980, a shortage of more than 15,000 professionally trained veterinarians.

Veterinarians for the 50 United States are supplied by 18 colleges of veterinary medicine in 17 States. Their classrooms are filled to capacity. Current and future needs for veterinarians require that these colleges be enlarged, that new colleges be built, and that funds be made available to support academically qualified veterinary students lacking the means to finance their education.

Veterinary colleges are national resources in the fullest sense. Their support, therefore, is a federal matter and can best be accomplished by passage of the Veterinary Educational Facilities Construction Act.

JUSTIFICATION FOR FEDERAL SUPPORT

In some parts of the United States, those states without veterinary medical colleges have entered into agreements with schools in nearby states. However, even where a contract exists, the percentage of applicants admitted from contract states is much smaller than that from the state in which the school is located. Obviously, equal educational opportunity does not exist for aspiring veterinary medical students throughout the United States. Expansion of existing schools and establishment of new schools would do much toward providing equal educational opportunity for all students who wish to study veterinary medicine.

Modern veterinary medicine has achieved a high level of scientific sophistication and performance. Its contributions to human health and welfare establish veterinary education as a precious national resource which must be supported and promoted in the national interest.

FLORIDA'S CONCERN FOR MORE VETERINARIANS

The Florida Veterinary Medical Association's Executive Committee, at its meeting in January, 1964, reviewed those factors influencing the present and future needs for veterinarians in Florida. These included the recognition that Florida is one of the fastest growing states and has now become 9th in population, the much faster growth in income from agricultural products than our national rate, the excellent opportunities projected by the University's DARE program for agriculture, and the importance of providing an adequate number of veterinarians to assure the highest economic returns for our livestock and poultry producers. Also recognized were the opportunities afforded in numerous other related areas including teaching, research, and the health related sciences.

On January 30, 1964, a letter was received from Dr. Hoyt Hall, Tampa, President of the Florida Veterinary Medical Association, stating, "It is with much personal satisfaction I report to you the unanimous action of the Executive Committee of the Florida State Veterinary Medical Association in recommending that you push forward as vigorously as possible toward the establishment of a College of Veterinary Medicine at the University of Florida."

Following this action, a letter was forwarded to Dr. York submitting these facts: "Recent, careful surveys of veterinary needs in Florida and the United States stress the urgency of increasing the number of qualified veterinarians available. The American Veterinary Medical Association suggested to the Subcommittee on Health of the United States Senate that 17.5 veterinarians are necessary to properly supply adequate 'quality' food and related needs for each 100,000 persons in the United States.

"Recent bills have been introduced into Congress proposing support of the present colleges and establishment of new colleges in the United States to correct this veterinary shortage. These bills would provide up two-thirds of the construction costs."

The Florida Agricultural Council, March 6, 1964, approved a recommendation to the Florida Legislature in 1965 that a College of Veterinary Medicine be authorized at the University of Florida as soon as feasible.

The Florida State Veterinary Medical Association, at its annual meeting in Orlando on September 27, 1965, passed a motion unanimously endorsing the establishment of a College of Veterinary Medicine at the University of Florida.

The United States Department of Agriculture, 1966, has estimated losses from animals and poultry diseases at 1.6 billion dollars, parasites 340 million dollars, and insects, more than 880 million dollars, or more than a total of 2.8 billion dollars annually.

Dairymen lose 500 million dollars to diseases and parasites. About two-thirds of these losses are due to mastitis, or a cost of 18 dollars per cow per year. *Swine producers* lose 300 million dollars per year—more than 25% of pigs farrowed die in their first few days of life. *Beef Cattle producers* lose 9 dollars per head annually: diseases take 300 million dollars, parasites another 200 million dollars, insects cost another 500 million dollars. *Broiler* losses run to 3-5% of all chicks hatched. Diseases cut egg production 10%.

Florida's annual estimated disease losses as presented in the DARE report are:

Anaplasmosis.....	\$3,000,000
Leptospirosis, Vibriosis, Brucellosis.....	3,000,000
Blackleg, Shipping Fever.....	2,000,000
Virus Diarrhea.....	2,000,000
Mastitis—dumped milk, replacement costs.....	10,000,000
Sterility, low conception rates.....	13,500,000
Equine Abortion, low conception rates.....	2,000,000
Equine Influenza, Anemia, Piroplasmosis.....	2,000,000
Swine disease losses.....	500,000
Parasites and other diseases.....	11,700,000
Poultry disease losses.....	2,300,000
Total.....	52,000,000

This represents approximately 20% of the gross sales from animals and poultry. Can Florida's economy compete effectively with that of adjoining states with more widespread veterinary services?

The veterinary profession recognizes its responsibilities and obligations with those in human health:

1. Eradication, control or treatment of the zoonoses—diseases transmitted from animals to man; these include rabies, psittacosis, salmonellosis, tuberculosis, parasitic infection.
2. Health and care of animals used for research in current studies in comparative cardiology, cancer, diseases of man, connective tissue diseases, metabolism, infectious diseases undoubtedly will yield results of real importance.
3. Comparative medical research.
4. Development and use of drugs and biologicals in the prevention and treatment of diseases of domestic and pet animals; their adaptation for human disease studies.
5. Inspection of food, meat, milk, poultry, to provide healthy, wholesome food.
6. Research on animals and their diseases for space exploration.

America, and especially Florida, has become an urban society and can afford to own pets and provide them with veterinary services. This pet population is increasing at a rate of 1 million animals annually. The proportion of pets receiving veterinary care, now at 15-20%, is also rising rapidly. There is a tremendous potential for increase in pet and companion animal practice, dogs, cats, caged birds, pleasure horses, and an ever increasing number and variety of exotic animals and birds. In 1962, about 200 veterinarians were engaged in laboratory animal care, while in 1965 the number had increased to 475. It is possible that by 1975 the number may equal those in large animal practice.

At a Land Grant College meeting in 1963, it was stated that by 1980 an additional 4,000 veterinarians would be necessary in governmental services: 800 in animal disease control and eradication, 1,200 in meat and poultry inspection, 300 in research, and an additional 1,700 in other divisions of the U.S.D.A. It was proposed that the United States would need at least 40,000 veterinarians by 1980; today we have 23,667.

Florida is now the 9th most populous state and all current trends indicate a continued growth of population. The State's population growth is projected to be 7,140,000 by 1970 and 8,340,000 by 1975. Florida should plan for 17.5 veterinarians per 100,000 population by 1975.

The Southern Regional Education Board has made provisions for professional education in several fields of higher education, including veterinary medicine. The Legislature of the State of Florida has approved the plan and has appropriated funds to pay the State's share of the cost of this plan. However, many qualified Florida students cannot now attend a veterinary college because of the limited quota. Florida students who desire to attend a veterinary college in other states generally experience difficulty in gaining admission. These colleges now have 3 to 5 qualified candidates for each opening in their freshman class. The Florida students must also pay out-of-state tuition and fees charged by those schools.

The University of Florida, with its ideal location and broad educational excellence in agriculture, the medical sciences, engineering and law, should serve as an ideal environment for establishing one of the new and urgently needed veterinary colleges. This will include plans for establishment of a College to provide a professional program of excellence and to instill a philosophy of lifelong continuing education in the student. The Veterinary College should be planned for the initial enrollment of 60 freshmen students with a goal of 100 per year. This would partially alleviate the present and future shortage of veterinarians, as well as provide a convenient and efficient class size.

Dr. Edds, I would certainly like to compliment those who have presented the material this morning indicating the broad opportunities for veterinarians, both in the United States and throughout the world. For my part of the testimony this afternoon, I would like to direct my comments to two or three of these points.

We, in Florida, are one of the States that have been benefited by the arrangements through the Southern Regional Educational Board.

We are sending our students to Auburn University. For the past 4 years I have been in Florida and have been acquainted with this arrangement.

I was surprised when I went to Florida to find that we had many qualified students who because of limited enrollment, cannot get into Auburn. They are well qualified. There is an arrangement with our board of regents that we pay Auburn \$1,500 a year per Florida student enrolled. They select the students. Auburn is another one of the schools that is increasing the enrollment in recent years to try to meet this student demand.

I feel there is a need: there are opportunities for more veterinarians than we have today. For the past 2 years Auburn has taken 20 students per year, and in spite of this we still have many students who cannot attend a veterinary college. What happens, of course, Auburn has picked our top students and those who do not get into Auburn have difficulty getting into any of the other schools.

As several of the deans have pointed out, a student must have a B average or better. We feel for a student to get into one of the other schools they must have an A average if they do not get into Auburn. In the past year we had a student who was given an award there at the University of Florida, for having the highest average, 3.947. This boy, with the degree, did not get into one of the other veterinary schools; he did not get into Auburn. This is the type student who is not now getting into a veterinary school.

Some mention was made about the increase in population. I will use this example as far as Florida is concerned. Florida has recently become the ninth most populous State. It increased from 5 million in 1960 to 5.8 million now. It is projecting something over 7 million by 1970 and possibly 8 to 9 million by 1975. I feel that there is a definite relation between human population numbers and the needs for veterinary services. Thus, I feel that we, in Florida, are one of the deficient States as far as the number of veterinarians.

Our association in Florida made a survey in 1964 for the estimated number of veterinarians needed. Today we have many job openings in the State that we cannot fill because of inadequate numbers of veterinarians. We projected that in 1975 to 1980 we may have a deficiency of 600 to 800 veterinarians in Florida.

We now have 580. If we take the figures showing the retirements by 1980, we will still have about 580 veterinarians in the State by 1975 or 1980, if we don't get support such as we are requesting here through your committee, to increase enrollment in our present veterinary colleges, as well as possibly establish new schools and colleges.

Some mention was made this morning that certain of the States have considered this opportunity for establishing veterinary colleges. I do know that Louisiana has authorized a veterinary college. I think Nebraska has, also. Florida has authorized a veterinary college but the development of these colleges would depend in part on whether or not such veterinary medical education assistance funds could be made available through Federal sources.

Mr. JARMAN. Has there been legislative activity in Florida with reference to a college?

Dr. EDDS. Yes; a college has been authorized by the Florida Legislature.

Mr. JARMAN. What is the estimated cost of the college in Florida?

Dr. Eds. We have projected a cost of \$8 to \$10 million to establish a new veterinary college.

Mr. JARMAN. But you feel that for the establishment of the college in Florida, Federal participation will be necessary?

Dr. Eds. We feel it would certainly speed up the time that we might establish a college. I'm sure in time, as the need became more acute, a college would be established. Without it, it would take longer.

I would also like to comment on some of the other examples given of the collaboration between medicine and veterinary medicine.

Certainly, many of our veterinary colleagues know that veterinarians contributed the basic knowledge on Dicumarol, which is a poison produced by sweet clover hay. Two veterinarians from North Dakota discovered it several years ago. Today this information is used in human surgery to prevent clotting during and following surgery. This evolved from basic information that was developed by veterinarians.

We also control our rat population in the United States, based upon this knowledge, on this hemorrhagic factor, that was isolated from sweet clover. This is another example of close collaboration.

Of course, several of our campuses, such as the University of Florida, Ohio State, University of Missouri, are located on campuses, where you can have close collaboration between a veterinary staff and a medical staff.

I would use two other examples as far as our own situation there at the University of Florida.

We have a veterinarian on our staff in research, Dr. Simpson, who has been working with the hemorrhagic disease of turkeys for a number of years. And we can produce a hemorrhagic disease, a bleb, a blister on the large vessel, the aorta of the turkey which is very similar to dissecting aneurysm of man. Our people in the medical school are interested in the work going on in the turkey, as a tool, a model that can be used to study their disease problem.

I would like to point out that, in addition to the opportunities in practice and industry, and in the Federal Government, there are many opportunities for veterinarians to join the medical staffs.

Dr. Pritchard pointed this out, that at the University of Florida, we have four veterinarians now employed on the medical staff—one in biochemistry, one in pharmacology, one in physiology, and one in anatomy. So, veterinarians can contribute both in practice and these other opportunities as well as to medical education.

Since this had not been presented today, I am pleased to present this additional information.

In Florida, we have estimated that our animal disease losses, represent about \$52 million a year, which is 20 percent of our total animal income. Now, of course, our concern in Florida is, Can a nation not controlling their animal disease problems compete effectively or supply the necessary protein food that we have talked about and as others have discussed it today, if we don't control these disease problems? I think this is a question, again, which points out the national importance of adequate support for veterinary training.

I would say in summary, that such support would provide opportunities for students who cannot now attend veterinary colleges, cannot get the training in the profession of their choice.

We should offer similar opportunities to those now provided in law, in medicine, and in the other professions. I feel that we need more veterinarians and we should offer the same opportunities to our students who would like to take veterinary medicine.

When we, who advise preveterinary students and high school students of their possible interest in veterinary medicine; as we get letters day by day indicating their interest, and we know that when they are qualified, they won't be able to take veterinary medicine, this is quite discouraging to us, who are in the educational institutions.

I feel, as I pointed out, that adequate veterinary services would provide insurance against the importation of diseases, as Dr. Price mentioned. I would just give this additional example: We imported piroplasmosis from Cuba which jeopardized a \$25 million industry. The research that we have carried on there along with those in the medical school at the University of Miami and the medical school at Florida has enabled us to prove that we can treat and eradicate this disease. And this tool or model can be used similarly as the use of atabrine and other compounds for eliminating malaria in man.

One of the witnesses, Dr. George Harrell, this morning pointed up the opportunities for veterinarians to serve in animal colonies—laboratory colonies—as far as providing “standardized animals.”

I think that, with the training our veterinarians get in the medical schools and in the laboratory animal colonies, this additional experience plus what they have learned in the veterinary school, makes them a part of a surgical team and they then are contributing both to medical education and veterinary problems. I think this would summarize the points included in my statement.

Mr. JARMAN. That is an excellent statement, Dr. Edds. I thank you for your being here.

Mr. Rogers?

Mr. ROGERS of Florida. It is a pleasure to see you here and I think your statement was excellent and very helpful. I also read it over and I think the point that you make—the points you make are good points on the increased demand.

I personally had experience with what you told about, the fact that students in our own State have had difficulty to obtain training. I often get letters from young men who say, “Where can I go? What can I do? Because I can't get accepted at Auburn.” So I know of the problem we have in our State and I would hope—I would be hopeful if we could draw this legislation where it would be helpful.

Thank you, Mr. Chairman.

Mr. JARMAN. The next witness is Dr. N. D. Petschulat, of the Animal Health Institute.

STATEMENT OF N. D. PETSCHULAT, ANIMAL HEALTH INSTITUTE

Dr. PETSCHULAT. Mr. Chairman, committeemen, I am N. D. Petschulat and I am employed by the industry which manufactures animal health drugs. The Animal Health Institute, a trade association of corporations in this industry, fully supports this bill and has prepared an endorsing statement which has been submitted to the clerk under the signature of Mr. Hollis Brower, president of the Animal Health Institute.

The executive secretary of the Animal Health Institute, Mr. Robert Brouse, has asked that I supplement the AHI statement with a few words about the role and demand for veterinarians in industry, if that is all right with the chairman.

Mr. JARMAN. The statement will be made a part of the record.
(The statement of the Animal Health Institute follows:)

STATEMENT OF THE ANIMAL HEALTH INSTITUTE, WASHINGTON, D.C., SUBMITTED
BY HOLLIS H. BROWER, PRESIDENT

The Animal Health Institute, organized in 1941, is an industry organization representing manufacturers of animal products for use in the therapeutic, prophylactic and nutrition fields. Our members produce over 90 per cent of the animal drugs, animal health and nutritive products used in agriculture and in the practice of veterinary medicine.

We support H.R. 490.

Because of the many witnesses scheduled to be heard today in support of the "Construction of Veterinary Medical Schools Bill," we respectfully submit this written endorsement. If future additional hearings are scheduled, we request the opportunity to appear and present such detailed testimony as may be appropriate.

We are confident that our colleagues from the veterinary and agricultural institutions will, in the course of these hearings, fully document the expanding needs for veterinarians in practice, government, teaching and research. We wish to express to you our deep interest and concern with respect to the need for large numbers of well-trained veterinarians in industry.

Veterinarians are found in nearly all disciplines of corporate function, but mostly in research and clinical development capacities. Other common responsibilities of the D.V.M. in industry are in manufacturing (biologicals), quality control, pathology, pharmacology, toxicology, disease control (diagnostic laboratories), marketing and management. Their role in the development of products in the animal health field is matched by their vital participation in the research and development of human drugs. In our considered opinion, the contribution of the veterinarian is essential in all areas of medicine.

Although industry's requirements for trained veterinarians have increased dramatically in recent years, the number of trained graduates provided by veterinary medical schools each year to meet the needs of agriculture, government, education, research, small-animal practice, and industry has not kept pace.

We estimate that over 600 veterinarians are employed in the animal health and nutrition industry today. Three years ago we employed less than half that number. With continued emphasis on research, and an ever-increasing expenditure for product development, we project industry's needs for trained veterinarians will more than double again in the next five years.

The success of animal agriculture, as it rises to meet the challenge of an ever-growing demand for protein foods, will depend heavily on the ability of the animal health industry to fight off the attacks of pests and diseases that limit animal protein production. The animal health industry depends upon the skills and knowledge of properly trained veterinarians.

We are confronted with the need for ever-larger numbers of well-trained, scientifically oriented personnel. In recent years veterinary medical education facilities have not expanded to a degree sufficient to meet the combined needs of agriculture, industry and small-animal practice. We therefore feel that passage of H.R. 490 will be a positive step forward toward meeting the health needs of our animal population and toward protecting the health and the diet of our human population.

Dr. PETSCHULAT. As a veterinarian and as a member of this association, I would like to point out that the industries of the United States manufacturing animal health biologicals, chemicals, and drugs are in fact providing the working tools of the veterinarian in his effort to maintain the health of animals and efficient production of edible products from animals.

Biologicals, drugs, and chemicals, as the working tools of veterinarians, amount to some \$300 million or \$400 million worth of goods sold in the United States each year.

The fact that the agriculture of the United States needs this amount of drugs is one important point, but another point is that the U.S. industry also sets the standard for the type of drugs which are made and used in other nations.

I think that in this capacity the U.S. animal health industry plays a big role in the overall job of aiding in the development of food production in other nations as means of satisfying the critical food shortage that we are facing now and in the future.

But, again, the main point here is that industry is providing for veterinarians their primary working tools. There are, that I know, at least 210 companies in the United States now manufacturing and selling animal health drugs, who employ veterinarians. Because they are making the "working tools," it is necessary that veterinarians be on their staffs for the design and in the development and in the production of these drugs, and in getting them distributed to agriculture.

These 210 companies that I know of employ nearly 600 veterinarians at the present time and as recently as 1962, we were only able to identify less than 300 veterinarians employed by industry. This suggests a doubling of the number of the veterinarians needed by industry in just the last 4 years.

Many of my colleagues have estimated that the requirements of industry will again double within the next 4 or 5 years, and that probably by 1970 there will be at least a thousand veterinarians in industry. We expect this number to redouble in the following 5 or 10 years.

Thus, when we talk about projections for 1980 as have been several times suggested today, we anticipate that there will be at least 2,000 veterinarians required at that time, for industrial employment.

Gentlemen, I think that the role of industry, the need of industry to employ veterinarians and the increasing demand for veterinarians in industry are feasible and justified and that we can count on industry for the absorption of a significant percentage of the veterinarians that will be produced.

This concludes my statement, Mr. Chairman.

Mr. JARMAN. Thank you very much. We appreciate your being with us. Are there any questions? Mr. Rogers?

Mr. ROGERS of Florida. I think your testimony has pointed up the problem for industry, and it is quite impressive to think that you have to double it in 4 or 5 years. Thank you.

Mr. JARMAN. The Animal Health Institute represents the manufacturers?

Dr. PETSCHULAT. Right.

Mr. JARMAN. Thank you very much for your testimony today.

I believe our final witness today will be Dr. Thorp, who asked for a few minutes of rebuttal time—at least an opportunity to testify briefly again on some of the points that were raised this morning.

I might say that the bells have rung for a vote on the House floor. If you can make your testimony brief we can conclude the hearing now, I think. Otherwise, it will be necessary for us to go to the floor and come back.

Dr. THORP. I will be very brief.

FURTHER STATEMENT OF DR. W. T. S. THORP, DEAN, COLLEGE OF
VETERINARY MEDICINE, UNIVERSITY OF MINNESOTA

Dr. THORP. Mr. Chairman and members of the committee, I appreciate this opportunity to just say a few words in regard to the letter from HEW by Assistant Secretary Cohen.

I would refer to page 3, if you have the letter there. (See HEW report, p. 14.) The second paragraph—he talks about the critical shortages of health profession—allied health personnel, professional manpower, and I think it has been made clear today that veterinary medicine is one of the health professions.

On the one hand, he points out the shortage but on the other hand, he is not willing to recommend support of this legislation and there may be compelling reasons why he did this.

I just use as an example—there have been many things recently—in Minnesota we find in the dried milk industry we are spreading Salmonella infection. This is going to require veterinarians. It is our understanding, as much as we could get from HEW and the chairman of this committee, at least, up until this morning, when Mr. Cohen's letter showed up, that their main concern was not to amend the medical facilities legislation, but they recognized the shortage of veterinarians.

I was a little surprised at this blanket recommendation.

There is another point that I would like to make. He mentioned in his third paragraph, providing quality health care for every American, and this we need. No one would argue with that, but we are interested in preventive medicine. We are interested in preventing these things from happening. Veterinary graduates are playing an important part in the medical research program, that Health, Education, and Welfare are supporting to a great extent.

The veterinary colleges are asked by the Agency for International Development, repeatedly—they are asked by the international health people in the programs of the Public Health Service, and the need of veterinarians was pointed out in relation to that legislation. So I think that we have on the one side the recognition of a shortage of this profession by Mr. Cohen, yet on the other side, he is not willing to support it.

There is one point that I would like to mention, and that is in regard to the medical research program. I know Congressman Rogers and Congressman Nelsen are not here, but they are aware of the interest in laboratory animals and the use of animals in medical research. This is going to require more veterinarians. This is going to be something in this area in the future.

I just want to point out that I would disagree with HEW and that we think this is something that the veterinary profession needs—we need more veterinarians, it is not a large appropriation. It could almost be covered with a contingency fund.

In regard to the loans, I think I answered that this morning.

In regard to the Educational Facilities Acts that have been established, it really does not exist to any extent as far as veterinary medicine is considered.

Mr. Chairman, unless you have some questions—there are many other things that can be said about the diseases of animals, transmissible to man. But I would just mention one other thing, though.

The "Health Careers Guidebook" put out by the Department of Labor opened by saying that today's veterinarians are important to human—as well as animal—health in ways one would not have thought possible a generation ago.

It says services are in greater demand than ever before. I am talking about the whole area of veterinarian medicine, not an isolated practice or in isolated positions that the veterinarian may hold.

I thank you very much for this opportunity to say a few words in reference to parts of Mr. Cohen's letter and, perhaps, some of us in the veterinary profession should sit down and talk with him.

Mr. JARMAN. Thank you, Dean Thorp, for the additional information.

Mr. ROGERS of Florida. Just a comment, Mr. Chairman.

I haven't see Mr. Cohen's letter, but I am a little surprised, too, because I know for a fact that they are in the process of at least trying to draft legislation that would pertain to the care of laboratory animals and their use for research and this, in itself, would call for this additional work.

Mr. MACKAY. We do not have time here, Dr. Thorp, to comment on Dr. Meyers' assertions that the profession is doing too much subprofessional work. The real emergencies I have had with animals, I am afraid the doctor could not instruct me on how to fix.

For example, how to fix a broken back. I would not want to turn this over to the technician. But we do not have time to go into that. It would make an interesting discussion, I am sure.

Dr. THORP. Perhaps Dr. Meyers is thinking of a specific area.

Mr. JARMAN. Thank you. We thank all of you for your participation.

Is there anyone else?

Dr. GREENWAY. May I speak, Mr. Chairman?

STATEMENT OF WILEY J. GREENWAY, PRESIDENT, STATE OF GEORGIA VETERINARY MEDICAL ASSOCIATION

Mr. GREENWAY. I represent 250 practitioners and we are from the State of Georgia where they have a large veterinary school and we feel like it is a severe need for not only veterinarians, but they miss one of the most important points and that is, increasing the facilities. We have to give the young men and ladies better training than we already have. There is no need for me to emphasize any other points, though, because I know from the hundreds of diseases that are transmitted from animal to man, it is important. But I just want to get in the one plug that I am a practicing practitioner with 15 veterinarians around by practice, and I still make a good living and I feel like we are going to need more veterinarians.

It is a problem right now to hire a good veterinarian and there are plenty of jobs that I know are available for the veterinarians. I just wanted to say, as a practitioner, those few remarks.

Mr. MACKAY. Dr. Greenway is not only from Georgia, but from my district. I am particularly pleased to have him up here and find me at my committee so he can report on that.

Mr. JARMAN. On that note, the committee stands adjourned.

(The following material was submitted for the record.)

STATEMENT OF W. W. ARMISTEAD, DEAN, COLLEGE OF VETERINARY MEDICINE,
MICHIGAN STATE UNIVERSITY

THE GROWING INTERRELATIONSHIPS OF MEDICAL SCHOOLS AND VETERINARY COLLEGES

Veterinary and human medicine had a common origin. The earliest medical men would be characterized today as a combination of physician and veterinarian because they dealt with the diseases of both animals and man. But splitting began very early and for 2500 years human medicine and veterinary medicine traveled separate, roughly parallel courses. Since World War II, however, the two professions have been converging again—first through common interests in basic medical research, more recently because of a growing understanding of the vital role of veterinary medicine in public health.

An unusual experimental program is being developed at Michigan State University to provide the closest possible coordination and interdigitation of human and veterinary medical education. Under an administrative device called the Institute of Biology and Medicine, all previously existing health-related programs of the University have been integrated and a new preclinical program in medicine has been added. There will be no duplication of subject-matter departments. The facilities of existing departments of anatomy, physiology, microbiology, pathology, and pharmacology have been augmented to enable them to teach both medical and veterinary students. Students in all the health-related sciences are sharing the same equipment and library and, in many cases, the same courses and teachers.

Aside from obvious economies, the Michigan State program has many philosophical advantages. It is expected to broaden greatly the perspectives of medical and veterinary students and to promote the more effective "team approach" to the solution of the health problems of modern man. The Michigan State program, furthermore, emphasizes the growing scientific stature of veterinary medicine and its largely untapped potential for direct contributions to human health.

[Telegram]

UTICA, N.Y. April 18, 1966.

CONGRESSMAN OREN HARRIS,
House of Representatives,
Washington, D.C.:

For several years efforts were made to encourage Congress to provide monies for construction and expansion of veterinary medical colleges and scholarships for veterinary students. Thirteen bills have been introduced and the House Interstate and Foreign Commerce Committee scheduled hearings of these bills for April 20. These bills collectively are entitled veterinary education facilities. We hope to receive your support of this legislation.

More should be done in educating young people in veterinary medicine and research. We have the capabilities but lack facilities to do the work. It is a known fact there would be a dire shortage of veterinarians by 1975. With existing facilities it would be impossible to meet the demands. Much depends on this legislation. We urgently request your support.

JOHN F. DONOVAN, D.V.M.,
Executive Secretary, New York State Veterinary Medical Society.

AUBURN UNIVERSITY,
OFFICE OF THE PRESIDENT,
Auburn, Ala., March 24, 1966.

CONGRESSMAN HARLEY O. STAGGERS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR CONGRESSMAN STAGGERS: As President of one of the 18 Universities in the United States offering a degree of Doctor of Veterinary Medicine, I would like to endorse the proposed Veterinary Medical Education Facilities Construction Act of 1965. The demand for graduate veterinarians is continuing to increase at a greater rate than the supply. It has been estimated that 44,100

veterinarians will be needed in the United States by 1980, but only 29,000 will be available.

The dimensions of Veterinary Medicine necessitate preparation for professional employment in several branches of government, including the Armed Forces, radiological health, teaching and research, as well as the traditional private practice. Auburn University is a recognized center of research in the general area of Veterinary Medicine, dedicated to the protection and improvement of health and economic welfare. We must continue to develop this most important service.

The need for additional veterinarians on a national level can be translated to the region served by Auburn University. This University accepts students in Veterinary Medicine from Alabama and five other states which do not have Schools of Veterinary Medicine. These students are accepted by contractual agreement, administered through the Southern Regional Education Board, between Alabama and the individual states. These states are Florida, Mississippi, Kentucky, Tennessee, and Louisiana. The demand for veterinary service within Alabama and the regional states for which we are responsible and the demand for student positions in our School of Veterinary Medicine has exceeded the number which can be accommodated. In 1964 we increased our entering class from 75 to 100 students in an effort to meet the demand.

The additional enrollment is severely taxing our physical facilities, and we must expand. The State of Alabama has provided \$1,900,000 for the construction of additional facilities, but \$3,215,000 will be required for buildings to accommodate the students presently enrolled. Additional expansion would require funds above and beyond this amount.

In view of the present, and especially the future requirements for veterinarians, I endorse this legislation as a proper and meaningful investment of public funds.

Sincerely yours,

HARRY M. PHILPOTT, *President.*

KANSAS STATE UNIVERSITY,
COLLEGE OF VETERINARY MEDICINE,
DEAN'S OFFICE,
Manhattan, Kans., April 11, 1966.

Dr. FRANK A. TODD,
Washington AVMA Office,
Washington, D.C.

DEAR DR. TODD: This statement is in support of the desperately needed Veterinary Medical Educational Facilities Bill.

The growth of the livestock industry paralleling the growth in our human population has put an extra burden upon the training facilities in veterinary medical teaching and research. Most of the relatively few states which are attempting to support veterinary medical educational facilities are finding it extremely difficult to upgrade, expand, or improve their facilities to keep up with the rapidly upward spiraling demands of the profession. The importance of Veterinary Medicine in providing healthy food animals for human consumption; in doing research on human health related problems; in support of our armed service activities; in our space endeavors; and in our drug industry production, control, and research efforts; covers a broad span of activities important to the well being of our people.

It is imperative that federal support, as potentially provided in this bill, be forthcoming soon if this country is to be able to continue its development in these areas in a manner necessary for the nation's progress.

May I, on behalf of the College of Veterinary Medicine here at Kansas State University, wholeheartedly endorse this bill as extremely necessary support to our nationwide veterinary medical programs.

Sincerely yours,

D. M. TROTTER, *Acting Dean.*

KANSAS STATE UNIVERSITY,
PRESIDENT'S OFFICE,
Manhattan, Kans., April 13, 1966.

CONGRESSMAN HARLEY O. STAGGERS,
Chairman of the Interstate and Foreign Commerce Committee,
Washington, D.C.

DEAR CONGRESSMAN STAGGERS: I wish to take this opportunity to give you the strongest possible endorsement of the Veterinary Medical Education Facilities Bill which is under consideration by your Interstate and Foreign Commerce Committee.

Kansas State University has one of the nation's 19 colleges of veterinary medicine. The current demands upon our College for education and research are without precedent. For example, we have approximately 400 preveterinary students now enrolled in the University, more than double the normal number. From this group, we are able to accept only 80 students a year into the College. Many of those whom we turn away are well qualified for the veterinary curriculum. The additional facilities which would be provided by the Veterinary Medical Education Facilities Bill would enable us to enlarge our enrollment and accommodate more of these students.

On the output side, the demands for veterinarians today far exceed the supply and shortages in the field are growing from year to year. In this connection, one thinks immediately of the requirement of our great livestock industry for veterinarians and the expanding small animal practice concentrated to a considerable extent in the large population centers. However, in addition to these opportunities, veterinarians are in greater demand than ever for food inspection and other types of regulatory services and for many scientific and research activities designed to protect not only animal but human health as well.

I feel strongly that the additional resources which the Veterinary Medical Education Facilities Bill would make available are essential to the success of our efforts to strengthen the morale, health, and vigor of the American people.

I shall be most grateful, indeed, for your support of this measure.

Sincerely yours,

JAMES A. MCCAIN, *President.*

AMERICAN DENTAL ASSOCIATION,
Chicago, Ill., April 22, 1966.

HON. JOHN JARMAN,
Chairman, Subcommittee on Public Health and Welfare, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR REPRESENTATIVE JARMAN: Legislation to provide federal matching grants for construction and rehabilitation of veterinary medical educational facilities should be given high priority by Congress.

The dental profession and the American Dental Association know well the essential tasks performed by veterinarians. Of special importance to dentists is the place of the veterinarian in the field of nutrition. That dental health is affected by the quality of food that human beings consume is well recognized by dentists. Assuring a continuing supply of wholesome and nutritious food will become even more critical as the nation's population increases. Accomplishing that assurance is a goal that calls for a national effort to increase the number of trained veterinarians. The facts developed by the American Veterinary Medical Association clearly show that federal aid is needed to provide the increased veterinary personnel which the nation must have.

The American Dental Association requests your Committee and Congress to take appropriate action to help assure an adequate number of well trained veterinarians to serve our national needs. I shall appreciate your inclusion of this letter in the hearing record on H.R. 3348 and similar bills.

Sincerely yours,

BERNARD J. CONWAY,
Secretary, Council on Legislation.

UNIVERSITY OF CALIFORNIA,
SCHOOL OF PUBLIC HEALTH,
OFFICE OF THE DEAN,
Los Angeles, Calif., April 20, 1966.

Re H.R. 490, Veterinary Medical Education Facilities.

HON. HARLEY O. STAGGERS,

*Chairman, Committee on Interstate and Foreign Commerce,
Washington, D.C.*

DEAR SIR: The expansion of existing schools of veterinary medicine and the construction of new ones are most essential to meet the public pressure for ever increasing services provided by the profession. There are eighteen schools of veterinary medicine located in seventeen states, graduating approximately 880 students per year. Most reliable evidence indicates a shortage of 12,250 in 1975, of 15,100 in 1980 and by 1985 there will be a serious shortage of 20,125 veterinarians unless training facilities are increased very materially.

The deficiency in the number of veterinarians today and future requirements have significance to public health. There are over 100 known diseases which people can acquire from animals. Veterinarians contribute to the control of rabies, tuberculosis, brucellosis, and other major diseases which animals and humans share. These diseases were major killers and cripples in the United States only a few years ago and continue to be serious risks in many developing nations in the world.

The veterinary profession protects human health through supervision of meat and poultry inspection programs, prevention of food contamination, evaluation of food additives, stimulating the safe use of pesticides, and altering the movement of radioisotopes in the food chain for elimination of the consumer's intake of radioactive materials. Through private practice concerned with protecting the health of farm, pet and recreational animals, the veterinarian prevents or minimizes the risk of the transmission of animal diseases to man. A few common diseases are bacterial diarrhea, psittacosis, leptospirosis, rabies, infectious hepatitis, parasitic diseases as well as brucellosis and tuberculosis.

Additional manpower in veterinary medicine is essential to meet not only the private sector demands but also those requirements in government, including Department of Agriculture, Health and Welfare, Food and Drug Administration, Defense Department, international health and for research and teaching. There is a rich history of contribution of veterinary medical science to better understanding of the natural course of disease in the physical and biological environment as well as major contribution to prevention. However, today the chronic diseases are major challenges for control and this profession is playing a major role. Emphysema, leukemia, liver disease, degenerative nervous disorders, kidney disease, cardiovascular diseases, among many others, are being intensively studied by veterinary scientists. The results of these studies will benefit man. In fact, few drugs, anesthetics, or surgical procedures are used on man before they have been tested in animals.

Our School of Public Health continues to seek veterinarians for post doctoral training in epidemiology and environmental health. The need for them in these areas is most acute and we can never meet the demands until there are adequate training facilities for veterinary medicine specialists throughout the country.

I sincerely hope that H.R. 490 receives favorable action by your Committee and the Congress.

Sincerely,

L. S. GOERKE, M.D., *Dean.*

PHARMACEUTICAL MANUFACTURERS ASSOCIATION,
Washington, D.C., April 29, 1966.

Re H.R. 490.

HON. JOHN JARMAN,

*Chairman, Subcommittee on Health and Welfare,
House Committee on Interstate and Foreign Commerce,
House Office Building,
Washington, D.C.*

DEAR MR. CHAIRMAN: This letter is respectfully submitted with respect to hearings recently held by your Subcommittee on H.R. 490, a bill entitled "The Veterinary Medical Educational Facilities Construction Act of 1965." It

presents for the consideration of your Subcommittee the views of the pharmaceutical manufacturing industry, and is responsive to your invitation asking interested parties to submit written statements expressing themselves on this legislation.

The Pharmaceutical Manufacturers Association, a national trade association, represents about 140 firms which manufacture approximately 95 per cent of the nation's output of prescription drugs. Our Association follows with great interest all proposed legislation relating to the public health, and this bill bears directly on the public health because it has a specific relationship to the fields of research and clinical development.

The bill authorizes a three-year program of Federal grants for the construction of new veterinary medical educational facilities. It also provides such Federal assistance for the construction of new facilities, or the improvement of present facilities, at existing schools of veterinary medicine.

These proposed construction programs give modest recognition to the growing demands of Government, agriculture, research, animal practice and industry for the services of veterinarians. Not only is there little likelihood that these demands will diminish in the future, but rather they give every indication of accelerating at an even faster rate.

Any shortages of veterinarians would have detrimental effect on the national economy and the public health. Through veterinary medicine the productiveness of our farm livestock is maintained, thus providing necessary food for the American people and assisting foreign nations in meeting the requirements of their own population. Further, veterinary medicine is important and necessary to our continuing and expanding efforts on behalf of the public health, medical research, clinical development and other scientific purposes. This can be seen in the role of the veterinarian in the tests made to determine the safety of drugs in animals before they are to be tested in man.

It would appear that the current rate of graduations from veterinary schools will not suffice to maintain veterinary services at present levels. Much less can our growing national demands be satisfied unless additional new facilities are constructed, or existing ones improved, so that the annual number of graduates of these schools will be increased.

The PMA, therefore, on behalf of its member firms, who now employ large numbers of well-trained veterinarians and will undoubtedly need more in the future, urges the enactment into law of H.R. 490.

It is respectfully requested that this letter be made a part of the record of your Subcommittee's proceedings on this bill.

Sincerely,

C. JOSEPH STETLER, *President.*

MARCH 26, 1965.

Representative OREN HARRIS,
Chairman, Interstate and Foreign Commerce Committee,
House of Representatives,
Washington, D.C.

DEAR REPRESENTATIVE HARRIS: I am writing concerning the "Veterinary Medical Educational Facilities Construction Act of 1965" H.R. 5890. The Oklahoma Veterinary Medical Association is very much interested in the passage of this bill and would appropriate an early hearing on it.

Our existing veterinary colleges, with their present limited space are unable to give the qualified young men and women ample opportunity to adequately pursue the vocation they have chosen. At the present time at Oklahoma State University there are enough applicants for three of the present size classes just from Oklahoma and the contract states. This does not count the other 300 who seek admission each year. With the proper facilities and state support for salaries and operations we should be able to increase the present class size by fifty percent.

According to the survey that was made, we will need approximately twice as many veterinarians as we now have by 1980. We will need more practicing veterinarians to go along with the increase in population that is expected. Probably the greatest demand will be for veterinarians in regulatory medicine and in medical research. If we are to feed the increase in population in this country, I am sure that you can see the need for proper health of our animals.

Sincerely,

J. PAT TRIPP, D.V.M.

OKLAHOMA CATTLEMEN'S ASSOCIATION,
Oklahoma City, Okla., April 2, 1965.

HON. OREN HARRIS,
*Chairman, House Interstate and Foreign Commerce Committee,
House of Representatives,
Washington, D.C.*

DEAR MR. HARRIS: On behalf of the Cattle Industry of Oklahoma we respectfully request your help in seeking the passage of H.R. 5890.

It is vital to the Cattle Industry of Oklahoma, and this Nation, that we continually improve the quantity and quality of our Veterinarians who are performing a needed service as well as doing research work for the benefit of this very important industry.

Respectfully,

ELLIS FREENY, *Executive Vice President.*

OKLAHOMA VETERINARY MEDICAL ASSOCIATION,
Cushing, Okla., October 3, 1963.

HON. JOHN JARMAN,
*House Office Building,
Washington, D.C.*

DEAR HONORABLE JARMAN: I am writing concerning H.R. 8445 "Veterinary Medicine Education Facilities Construction Act of 1964." I would like to encourage the passage of this bill because of the need for qualified veterinarians. At the present time in our state, our veterinary school cannot accept even one-half the students that apply for admission. Of course, we of the veterinary profession would like to keep our standards high and we don't want to accept those who would not be a credit to the profession. However, we feel that there are many applicants that apply would make fine veterinarians but cannot be accepted due to the limited facilities.

Thanking you in advance for your consideration encouraging the passage of this bill, I am

Sincerely yours,

H. H. KARSTETER, D.V.M., *President.*

APRIL 23, 1965.

HON. OREN HARRIS, M.C.,
*House Office Building,
Washington, D.C.*

DEAR MR. HARRIS: As a member of the health profession, I am interested in H.R. 5890, a bill to authorize a three-year program for construction of veterinary medical educational facilities, and for other purposes.

Veterinary medicine plays an important role in human health, as well as being essential to the protection of health of animals of the United States. The knowledge obtained and the research accomplished in schools of veterinary medicine are valuable in the broad understanding of the nature of disease and its prevention. The graduates of veterinary schools are essential in developing well rounded public health programs, and in this capacity are necessary for the staffs of health departments at the local, state, and federal level.

Schools of veterinary medicine have an urgent need for assistance that this bill can provide, and I strongly urge that favorable consideration be given to it.

Sincerely,

KIRK T. MOSLEY, M.D., *Commissioner of Health.*

THE UNIVERSITY OF OKLAHOMA,
SCHOOL OF MEDICINE,
Oklahoma City, Okla., April 2, 1965.

HON. OREN HARRIS,
*Chairman, Interstate and Foreign Commerce Committee, House of Representatives,
Washington, D.C.*

DEAR SIR: The purpose of this letter is to emphasize the University of Oklahoma School of Medicine's unqualified endorsement of the "Veterinary Medical Education Facilities Construction Act of 1965." Research in veterinary medicine

is becoming increasingly significant to the overall health research activities of the nation. Inter-disciplinary research efforts between schools of medicine and schools of veterinary medicine are an important facet in the aims of public health. Doctors of veterinary medicine are assuming positions of importance in schools of medicine as members of the animal care program, as well as in experimental medicine and comparative pathology programs.

Your support is earnestly requested for H.R. 5890 which was introduced by Congressman Steed and referred to your committee of interstate and foreign commerce.

Sincerely yours,

JOSEPH M. WHITE, M.D.,

Associate Dean in Charge of Research Programs and Special Training.

MARCH 23, 1965.

Congressman OREN HARRIS,
Chairman of Interstate and Foreign Commerce Committee,
Washington, D.C.

DEAR CONGRESSMAN HARRIS: I am writing to you in regard to H.R. 5890 providing for much needed help in expanding facilities for Veterinary Medical Schools.

The present need for Doctors of Veterinary Medicine in Oklahoma is very great. Personally I live in an area that has a great potential in the development of its livestock industry. We do not now have a Doctor of Veterinary Medicine within 30 miles, yet livestock is our number one crop.

This local situation exists in so many areas of the state that one of the immediate concerns of the Agricultural Research and Education Association of Oklahoma, a state wide organization of people in agricultural production, is to make it possible for our School of Veterinary Medicine in Stillwater to be able to increase the number of applicants it can accept in its classes. We realize that only if we can expand our teaching facilities can we expect to be provided the veterinary service that we must have to do an efficient job in livestock production in our state.

Our young people now are discouraged in looking forward to a vocation in veterinary medicine knowing that only one of three who is qualified can now be accepted in our school.

We have the youth. We have the need for Doctors of Veterinary Medicine. We need the facilities to train them.

Congressman Harris, we hope that you will take what steps that are necessary to bring this bill to the earliest possible consideration of your committee. I am sure that the need in other states as well as Oklahoma makes this a most urgent and worth while way the Federal Government can help our young people get an education that will afford them means of performing a very vital service to our future livestock development.

Yours truly,

J. S. HOLMBERG,

State Chairman, Agriculture Research and Education Association.

(Whereupon, at 3:30 p.m., the committee was adjourned.)





